

CDX-5460RDS

SERVICE MANUAL

AEP Model
UK Model



SPECIFICATIONS

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	20W x 4 (at 4 ohms)* * Measured at 14.4 V

CD player section

System	Compact disc digital audio system
Frequency response	10 – 20,000 Hz $\pm$ 3 dB
Wow and flutter	Below the measurable limit
Signal-to-noise ratio	90 dB

Tuner section

FM	
Tuning range	87.5 – 108.0 MHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Sensitivity	12 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 70 dB (mono)
Harmonic distortion at 1 kHz	0.5% (stereo), 0.3% (mono)
Separation	35 dB
Frequency response	30 – 15,000 Hz $\pm$ 3 dB

Model Name Using Similar Mechanism	CDX-5260/5262
CD Drive Mechanism Type	MG-205Z-130

MW/LW

Tuning range	MW : 531 – 1,602 kHz LW : 153 – 281 kHz
Antenna terminal	External antenna connector
Intermediate frequency	450 kHz
Sensitivity	MW : 30 μ V LW : 50 μ V
Signal-to-noise ratio	55 dB
Harmonic distortion at 1 kHz	0.3%

General

Tone controls	Bass $\pm$ 10 dB at 100 Hz Treble $\pm$ 10 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Current drain	1 A (CD playback) 1.5 A (during disc loading or eject)
Operating temperature	– 10°C to 50°C
Dimensions	Approx. 178 x 50 x 155 mm (w/h/d) not incl. projecting parts and controls
Mass	Approx. 1.5 kg
Supplied accessories	Mounting hardware (1 set) Power input lead (1) Front panel case (1) Wireless remote commander RM-X35 (1)

Design and specifications subject to change without notice.

FM/MW/LW
COMPACT DISC PLAYER
SONY[®]



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SERVICING NOTES

Laser Diode Properties

- Material: GaAlAs
- Wavelength: 780 nm
- Emission Duration: continuous
- Laser Output Power: less than 44.6 μ W*

* This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.

The flexible board is easily damaged and should be handled with care.

SAFETY - RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

Features

General

- **Detachable-front panel** enables you to take the front panel away with you when you leave your car. (page 10)
- Switchable **two color illuminations** (amber and green). (page 7)
- **With the built-in high power amplifier** (max. output: 4 ch x 20 W), you can enjoy a 4-speaker system.
- Line outputs for connecting an optional power amplifier.
- **Caution alarm** will be activated if you turn off the ignition key without removing the front panel from the unit.
- **Telephone-mute function** for decreasing the volume automatically with a telephone call.
- Supplied with the **wireless remote commander**.
- Provided with a **digital 24-hour clock**. (page 26)

Tuner section

- **SSIR** (Sony Super Interference Rejection) **PLL** (Phase-Locked Loop) synthesizer tuner.
- Up to 30 stations can be preset: 18 stations on FM and 6 stations each on MW and LW.
- **BTM** (Best Tuning Memory) function automatically selects and stores the stations with strong signals on the preset number buttons in order of frequency. (page 14)
- The information services of **FM RDS station** can be received. (page 17)
- Compatible with the **RDS features** such as **EON** (Enhanced Other Networks), **AF** (Alternative Frequency), **TA** (Traffic Announcement) and **CT** (Clock Time) function. (page 17)

CD player section

- **1 bit DAC** (Digital-to-Analog Converter) for a clear sound reproduction.
- **Quick recovery mechanism** for preventing sound skipping.
- **Shuffle play function** for playing tracks in random order. (page 12)
- **Intro scan function** for playing the first 10 seconds of each track. (page 12)
- **Repeat play function** for listening to a currently playing track repeatedly. (page 12)

Precautions

- Before operating the unit for the first time or after replacing the car battery, press the reset button with a ball-point pen etc., then start operating the unit.
- If your car was parked in direct sunlight resulting in a considerable rise in temperature inside the car, allow the unit to cool off before operating it.
- If no power is being supplied to the unit, check the connections first. If everything is in order, check the fuse.
- If no sound comes from the speakers of a 2-speaker system, set the fader control to the center position.

Note on moisture condensation

On a rainy day or in a very damp environment, moisture in the atmosphere may condense on the lenses inside the unit. Should this occur, the unit may not operate properly. In such a case, remove the disc from inside and wait for about an hour or so until the moisture has evaporated.

If you have any questions or problems concerning your unit that are not covered in this manual, please consult your nearest Sony dealer.

Notes on Discs

Handle the disc by its edge, and to keep the disc clean, do not touch the surface.



This way

Do not attach any paper or tape.



Not this way

Do not expose the disc to direct sunlight or heat sources such as hot air-ducts, or leave it in a car parked in direct sunlight where there can be a considerable rise in temperature.

Cleaning Discs

Before playing, clean the disc with an optional cleaning cloth. Wipe the disc in the direction of the arrows.



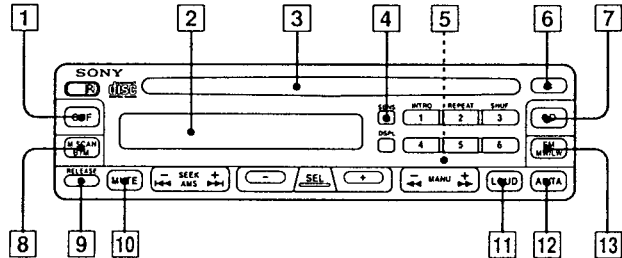
Do not use solvents such as benzine, thinner, commercially available cleaners or antistatic spray intended for analog discs.

SECTION 1 GENERAL

This section is extracted from instruction manual.

Location and Function of Controls

Main Unit

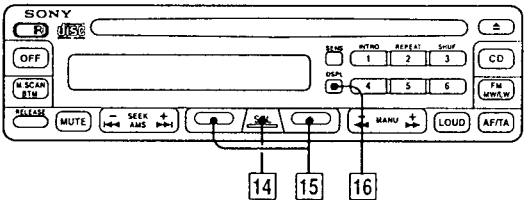


Refer to the pages in ● for details.

- 1 OFF button
Press to turn off the unit.
- 2 Display window
- 3 Disc insertion slot
- 4 SENS (sensitivity) button 18
- 5 Reset button (located on the front side of the unit hidden by the front panel)
Press this button when you use this unit for the first time, when you have changed the car battery, or when the buttons of this unit do not function. Note that when the button is pressed, the memories on the preset number buttons will be erased.
- 6 ▲ (eject) button 11
- 7 CD (disc play) button 11
- 8 M.SCAN/BTM (memory scan/best tuning memory) button 14 16
- 9 RELEASE (front panel release) button 10

- 10 MUTE button
Press to mute the sound momentarily. Press again to restore the previous volume level. This button will also be canceled in the following cases:
— when the (+) or OFF button is pressed
— when the ignition key of your car has been turned to the OFF position for more than ten seconds.
- 11 LOUD (loudness) button
Press to reinforce the bass and treble especially when listening at a low volume level. To cancel the mode, press it again.
- 12 AF/TA (alternative frequency/traffic announcement) button 21 22
- 13 FM/MW/LW (radio on/band select) button 18
At each pressing, the button changes the band cyclically as follows:
FM1 → FM2 → FM3 → MW → LW → FM1

Location and Function of Controls



- 14 SEL (control mode select) button
Press to select the desired control mode: BAS (bass), TRE (treble), BAL (balance), FAD (fader) or VOL (volume).
- 15 (-) (+) (volume/bass/treble/balance/fader control) buttons
Press to adjust each mode.
- 16 DSPL (display change/time set) button 23
At each pressing, the button changes the display modes cyclically as follows:

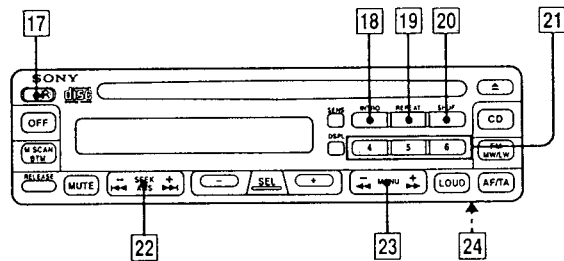
During CD play	During radio reception
Elapsed playing time/track number ↔ Clock	Frequency ↔ Clock

See page 20 about the display modes when the RDS function is in operation.

Display window	Control mode		
		Press (-)	Press (+)
BAS	Bass control	For less bass	For more bass
TRE	Treble control	For less treble	For more treble
BAL	Balance control	To decrease the right-speakers' volume	To decrease the left-speakers' volume
FAD	Fader control	To decrease the rear-speakers' volume	To decrease the front-speakers' volume
VOL	Volume control	For less volume	For more volume

These (-) (+) buttons normally function as the volume control. Adjust the level within three seconds after selecting the desired control mode with the SEL button. Otherwise, the mode will go back to the volume control mode.

Location and Function of Controls



17 Receptor for the supplied wireless remote commander.

		During CD play	During radio reception
18	INTRO button	Intro scan ⑫	Preset number buttons ⑮⑯
19	REPEAT button	Repeat play ⑫	
20	SHUF button	Shuffle play ⑫	
21		—	
22	SEEK/AMS button	AMS (Automatic Music Sensor) function ◀◀: Press once to locate the beginning of the track being played. ▶▶: Press once to locate the beginning of the next track. Press repeatedly to locate previous or succeeding tracks.	Automatic tuning ⑮
23	MANU button	Manual search ◀◀: Keep pressed to go back at high speed. ▶▶: Keep pressed to go ahead at high speed.	Manual tuning ⑮

24 POWER SELECT switch (located on the bottom of the unit)
See "POWER SELECT Switch" in the installation/connections manual.

Changing the illumination color

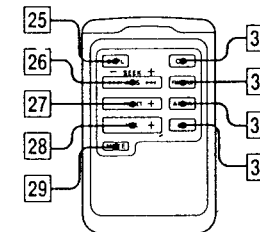
Press the button while pressing the SEL button.

Muting the beep tone

Press the button while pressing the SEL button. To obtain the beep tone again, press these buttons once more.

Location and Function of Controls

Supplied Wireless Remote Commander



Buttons of the same function as those on the main unit

	During CD play	During radio reception
25	DSPL (display change) button	
26	AMS (Automatic Music Sensor) button	SEEK (automatic tuning) button ⑮
29	MUTE button	
30	OFF button	
31	FM/MW/LW (radio on/band select) button ⑮	
32	AF/TA (alternative frequency/traffic announcement) button ⑮⑯	
33	CD (disc play) button ⑮	

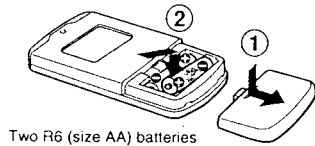
When the POWER SELECT switch is set to the OFF position, the unit cannot be operated with the wireless remote commander unless one of the CD and FM/MW/LW buttons of the unit is pressed or a disc is inserted to activate the unit first.

Different function buttons

- 27 PRESET (preset search) button
Press lightly to receive in order the stations memorized on the preset number buttons. At each pressing, the number changes as follows:
+: 1 → 2 → 3 → 4 → 5 → 6 → 1...
-: 1 → 6 → 5 → 4 → 3 → 2 → 1...
- 28 VOL (volume) button
This button adjusts only the volume level.

Location and Function of Controls

Installing the Batteries



Battery life

When the batteries become weak, you will not be able to operate the unit with the wireless remote commander. Battery life is approx. six months although it depends on the way of use.

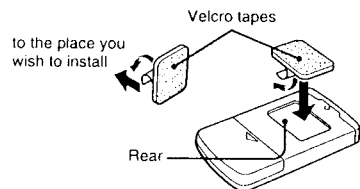
Notes on batteries

To avoid damage from battery leakage and corrosion:

- insert the batteries with correct polarity
- do not use an old battery with a new one, or different types of batteries together
- remove the batteries when you do not use the unit for a long period of time
- do not charge the batteries.

If any battery leakage occurs, replace the batteries with new ones after cleaning the battery compartment.

Installing the Supplied Wireless Remote Commander



Install the wireless remote commander with velcro tape in a desired place.

Notes

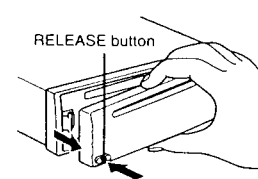
- Do not install or leave the wireless remote commander in a location near any heat sources, or in a place subject to direct sunlight (especially on the dashboard in summer etc.).
- When you park the car in direct sunlight, detach the wireless remote commander and place it in a location not subject to direct sunlight such as the glove-box.
- Before installing the wireless remote commander, be sure to confirm whether you can remote control the unit from the place you intend to install.
- Before attaching the velcro tape, clean the surface.

Detaching and Attaching the Front Panel

The front panel of this unit can be detached in order to prevent the unit from being stolen.

Detaching the Front Panel

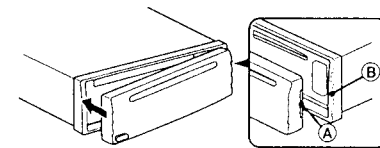
Before detaching the front panel, be sure to press the OFF button first. Then press the RELEASE button to open up the front panel and detach the panel by pulling it towards you as illustrated.



Be sure not to drop the panel when detaching it from the unit.

Attaching the Front Panel

Apply the right hand side of the front panel to the unit by attaching the part (A) of the front panel to the part (B) of the unit as illustrated and push until it clicks.



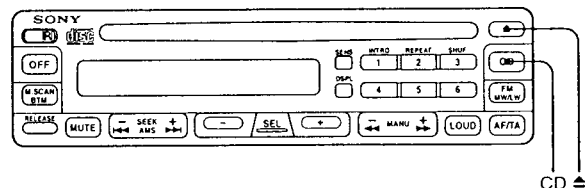
Caution alarm

If you turn your ignition key to the OFF position without removing the front panel, the caution alarm will be activated and a beep tone will be heard for a few seconds (only when the POWER SELECT switch is set to the ON position).

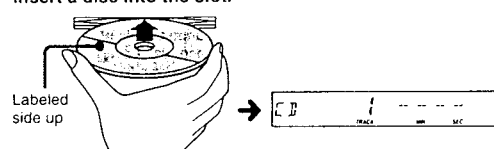
Notes

- Make sure that the front panel is the right way up when attaching it to the unit as it cannot be attached upside down.
- Do not press the front panel hard against the unit when attaching it to the unit. It can be easily attached by pressing it lightly against the unit.
- When you carry the front panel with you, put it in the supplied front panel case.
- Do not press hard or give excessive pressure to the display window of the front panel.
- Before removing the front panel, be sure to turn the power off. However, if you press the RELEASE button to detach the panel while the unit is turned on, the power will be automatically turned off in order to protect the speakers from being damaged.
- Do not expose the front panel to direct sunlight, heat sources such as hot air ducts or leave it in a humid place. Never leave it on the dashboard etc. of a car parked in direct sunlight where there may be a considerable rise in temperature inside the car.

Playing a CD

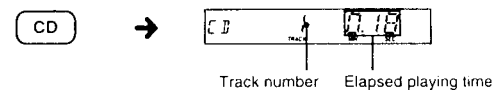


Insert a disc into the slot.



When a disc is inserted, CD play will automatically start.

If a disc is already inserted, press the CD button.



Ejecting the Disc

Press the button.

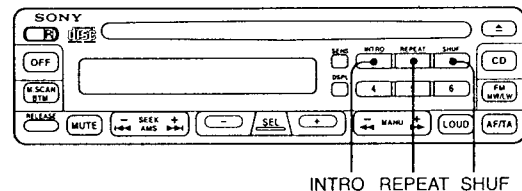
If you press the FM/MW/LW button during CD play

The CD play will stop automatically and the tuner will be activated.

Important

Since the CD system offers a wide dynamic range, the peaks of the high level inputs are recorded with high fidelity and the noise level is very low. Do not turn up the volume while listening to a section with no audio signals or very low level inputs. If you do so, the speakers may be damaged when a section with a peak signal is played.

Playing in Other Modes



Playing the Beginning of Tracks

— Intro Scan Function

Press the button to play the first 10 seconds of each track in order.

To cancel the function, press it again.

Playing Repeatedly

— Repeat Play Function

Press the button to repeat the same track.

To cancel the function, press it again.

Playing in Random Order

— Shuffle Play Function

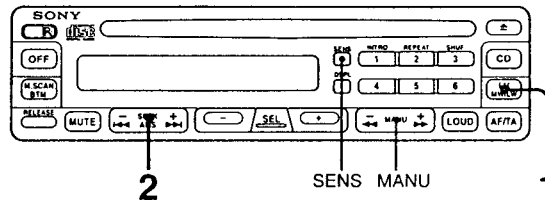
Press the button to play the tracks in random order.

To cancel the function, press it again.

Note

If the INTRO button is pressed during shuffle play, the first 10 seconds of every track will be played randomly.

Tuning in a Station



Searching for the Stations Automatically — Automatic Tuning

1 Select the desired band.

FM
MW/LW

2 Press the SEEK button.

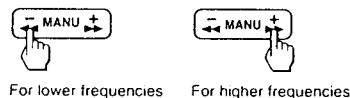
For lower frequencies

For higher frequencies

The scanning stops when a station is received. Press the button repeatedly until the desired station is received.

Tuning in by Adjusting the Frequency — Manual Tuning

Select the desired band, then press the MANU button.



PREVENTING ACCIDENTS!

While you are driving, the use of the Automatic Tuning and the Memory Preset Tuning is recommended in favor of the Manual Tuning.

Overview of the RDS Function

What is RDS?

The RDS (Radio Data System) is a radio digital information system developed and introduced in 1987 by the EBU (European Broadcasting Union). Using the 57 kHz sub-carrier of FM broadcasting, the RDS enables you to receive a variety of information such as station names and traffic information. It also offers some useful functions such as automatic re-tuning of the best available signal carrying the chosen program.

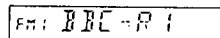
The RDS digital data includes the followings:

PI	Program Identification
PS	Program Service Name
AF	List of Alternative Frequencies
TP	Traffic Program
TA	Traffic Announcement
PTY	Program Type
EON	Enhanced Other Networks
CT	Clock Time

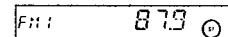
The following functions are available with this unit using the RDS data. Refer to the marked pages for the operational instructions.

Station Service Name Display (page 20)

This function displays the name of the station which is currently tuned in on the display window.



When an FM stereo program with a sufficient signal strength is tuned in



The "ST" indication will appear.

Avoiding the automatic tuning from stopping on stations too frequently (Local Seek Mode)
Press the SENS button lightly to get the "LOCAL" indication. Only the stations with relatively strong signals can be tuned in. The local seek mode functions only when the Automatic Tuning is in operation.

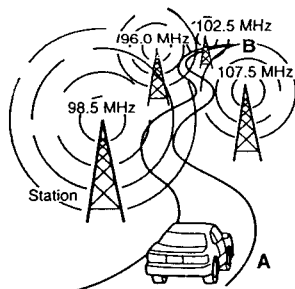
If FM stereo broadcasting is difficult to receive (Monaural Mode)

Press the SENS button lightly to get the "MONO" indication. The sound will improve, but it will become monaural.

Note

You cannot use the manual tuning with the supplied wireless remote commander.

Overview of the RDS Function



Automatic Re-tuning — AF Function (page 21)

This function automatically re-tunes in a station with a relatively stronger signal within the same broadcasting network using the PI and AF data.

The illustration above shows an example of a car passing through an area with four stations of the same broadcasting network between points A and B.

As the car moves on, the reception frequency of the station in the network changes from 98.5 MHz to 107.5 MHz then to 96.0 MHz and to 102.5 MHz.

By using the AF function, the driver will be able to keep listening to a program in the same broadcasting network without tuning in the station manually every time he enters a different frequency zone between points A and B.

Traffic Announcement Reception

— TA Function (page 23)

This function searches and stands by for a traffic information station using the TP and TA data.

Using this function, the unit automatically searches the station and changes its mode to receive the traffic announcement when the broadcasting starts while you are listening to CD play.

Overview of the RDS Function

Enhanced Other Networks

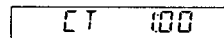
— EON Function (pages 22 and 23)

The EON function extends the faculty of the TA and TP functions by enabling the unit to track local stations transmitting the EON data while it is tuned to a network station.

Setting the Clock Using the CT Function of the RDS

The CT function of the RDS enables the built-in clock in the unit to automatically synchronize with the CT data being received by the tuner section of the unit.

To activate the CT function, press the  button while pressing the SEL button. The "CT" indication will appear on the display window.



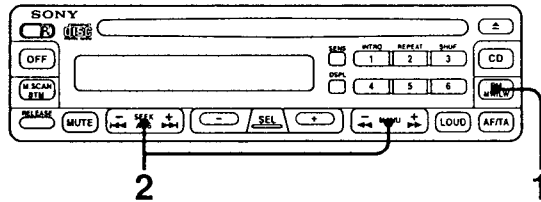
To cancel the function, press these buttons again.

If the CT function is being activated while you adjust the clock manually, the clock will be automatically adjusted by the CT data the next time the unit receives it.

Note

Even if you are listening to a network station, the unit will automatically monitor local EON stations. When there is a local traffic announcement, the unit will automatically tune to that station and will re-tune to the previous station when the broadcast is over.

Station Service Name Display



1 Select the FM band.

FM
MW/LW

2 Tune in a desired station by using the Automatic Tuning or Manual Tuning (page 13).

SEEK AMS or MANU

If the unit is set in the station service name display mode and a station transmitting the RDS data is received, the name of that station will be displayed on the display window.

When the "-----" indication appears on the display window in the station service name display mode
The received station is not an RDS station.

When the unit is in the frequency display mode and an RDS station is received

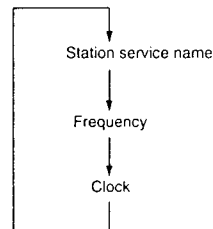
The "R" display will come on to indicate that an RDS station is received. To find out the name of the station, press the DSPL button to change the display mode.

Notes

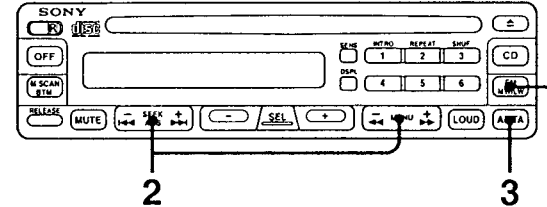
- The RDS data can be received only on the FM band.
- The RDS functions of this unit will not be activated if the FM station being received is not transmitting the RDS data. It may also not work properly in areas where the RDS transmissions are in the experimental stage.

You can change the display mode by pressing the DSPL button

Each time you press the button, the display mode changes as follows:



Automatic Re-tuning — AF Function



1 Select the FM band.

FM
MW/LW

2 Tune in a desired RDS station by using the Automatic Tuning or Manual Tuning (page 13).

SEEK AMS or MANU

3 Press the AF/TA button to get the "AF" indication.

AF/TA

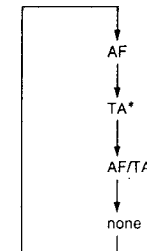
If the signal level of the tuned in RDS station falls below a certain point, the unit will begin to search for an alternative station with a stronger signal in the same network from the AF data (List of Alternative Frequencies). If a stronger signal station is found, the unit re-tunes in that station.

Notes

- When the "AF" indication appears on the display window, only the RDS stations can be tuned in by the Automatic Tuning.
- If the tuned in RDS station is not transmitting the AF data, this function will not work.
- If you press the AF/TA button while the MW or LW band is being tuned in, the FM1 band will be automatically selected.

The AF/TA button

Each pressing of the button changes the function cyclically as follows:



- See page 23 about the TA function.

Network Stations Memory

When the unit stores an RDS station transmitting the AF data on a preset number button, it stores not only its frequency but also its PI and AF data. The AF data carries the information of the list of the frequencies of the stations within the same broadcasting network. The unit will store the data in its memory whether the AF function is activated or not.

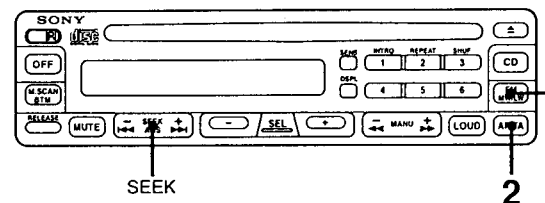
Getting the Stored RDS Stations in Tune from the Broadcasting Networks

Be sure to press the preset number buttons after pressing the AF/TA button to activate the AF function. The AF function will select a better signal station by re-tuning within the network stations. If you press the preset number buttons without activating the AF function, you will not be able to use this function. In this case, you will only get the individual stations which were tuned in on the previous occasion. The unit will not re-tune to the other stations in the network even if they are stored in the memory.

RDS Stations Transmitting the EON Data

The EON data incorporates the AF data of other stations as well. Therefore, the unit can update the AF data of the preset stations and these stations will be tuned in the next time the preset number buttons are pressed.

Receiving Traffic Announcements — TA Function



Receiving a Traffic Information Station

1 Select the FM band.

FM
MW/LW

2 Press the AF/TA button to get the "TA" indication.

AF/TA

The search for a traffic information station will start. When an RDS station transmitting the TP data is found, the search stops and the "TP" indication will come on the display window.

The "TA" indication will flash while the traffic announcement is on the air. It will stop flashing when the announcement is over.

To search another RDS station transmitting traffic announcements

Press the SEEK button while the "TA" indication is still on the display window.

If the TA function is activated while the unit is receiving a station which is transmitting the EON data, the "TA", "TP" and "EON" indications will come on the display window. In this case, if another station starts broadcasting a local traffic announcement, the unit will automatically tune to that station. When the announcement is over, the unit will re-tune to the previous station.

Notes

- Do not activate the TA function in an area where there is no traffic information broadcasting service available. If you do so, the unit will keep searching for it and other stations cannot be tuned in.
- If you activate the TA function while the MW or LW band is tuned in, the FM1 band will be automatically selected and the unit will start searching for a traffic information station.

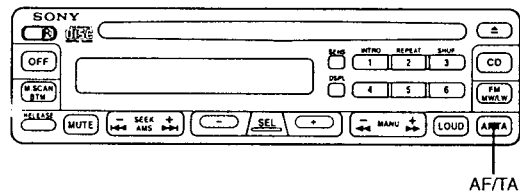
"TP" indication

This indicates that the currently tuned in RDS station offers a traffic information service.

"EON" indication

This indicates that the unit is receiving the station transmitting the EON data.

Receiving Traffic Announcements



Standing by for Traffic Announcements while Listening to a CD

Press the AF/TA button to get the "TA" indication during CD play.

AF/TA

The CD play continues while the unit searches for a traffic information station.

When a station is found:

The "TP" indication will come on the display window.



When a traffic announcement starts:

The "TA" indication will start flashing. The CD play will stop and the traffic announcement will be heard.



When the announcement is over:

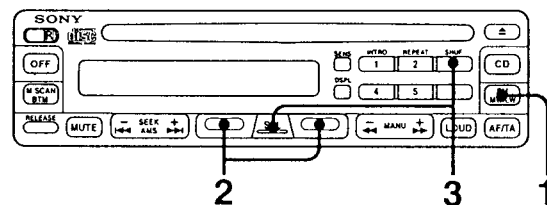
The CD play will resume from where it was left off.

To cancel the stand-by mode

Press the AF/TA button to turn off the "TA" indication.

Changing the display to that of the frequency or station name during CD play Press the DSPL button a few times. While the frequency or station service name is being displayed, the SEEK, MANU and preset number buttons will function in the same way as they do during a radio reception.

Receiving Traffic Announcements



Traffic Announcements are Heard at the Preset Volume Level

When a traffic announcement starts, you can hear it at the preset volume level even if the volume control on the front panel has been turned down. (If you are listening to other sources with a higher volume level, the level will not change.) The preset volume level can be set in the following manner:

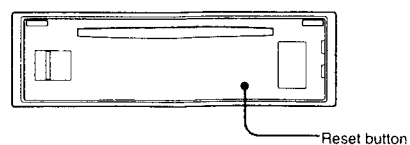
- 1 Select the FM band.
 - 2 Adjust the volume to the desired level.
 - 3 Press the preset number button 3 while pressing the SEL button.
- A beep tone will be heard when the setting has been completed.

PTY (Program Type) Data Emergency Announcement Reception

In case of an emergency, or in a situation where there may be danger from a natural disaster in the area, the RDS stations will transmit the PTY data information to warn drivers that they are in danger. The data includes the character display and the interruption signal for automatically turning on the radio. **This data can be received while the AF or TA function is being activated.** If the unit receives the PTY data from an RDS station during CD play, the "AF" indication on the display window will start flashing and the CD play will stop. The radio will be automatically turned on to receive the emergency announcement from the station.

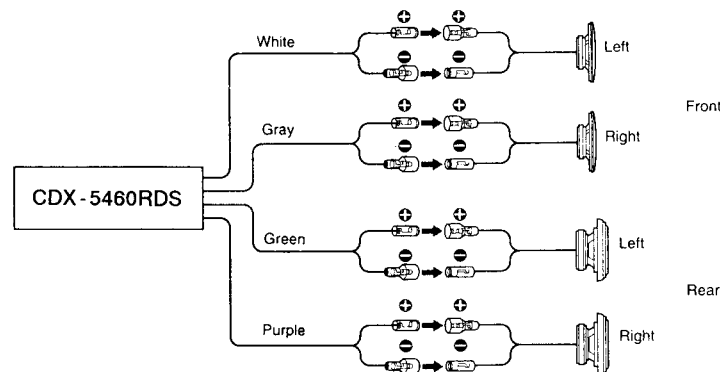
Reset Button

When the installation and connections are over, be sure to press the reset button with a ball-point pen etc. The reset button is located on the left of the connector on the unit side when the front panel is detached.



Speaker Connection

4-speaker connection

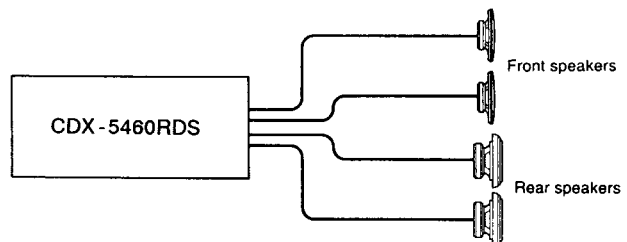


Notes on speaker connection

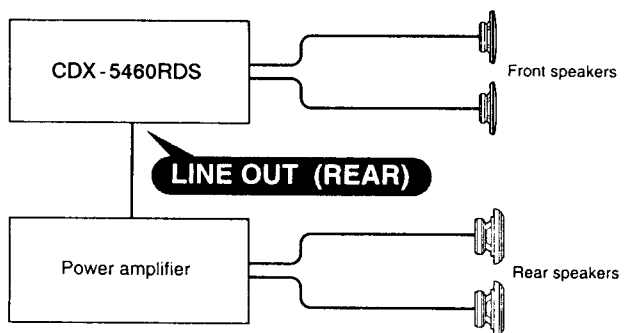
- Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.
- Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.
- Do not attempt to connect the speakers in parallel.
- Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.

Connection Diagram

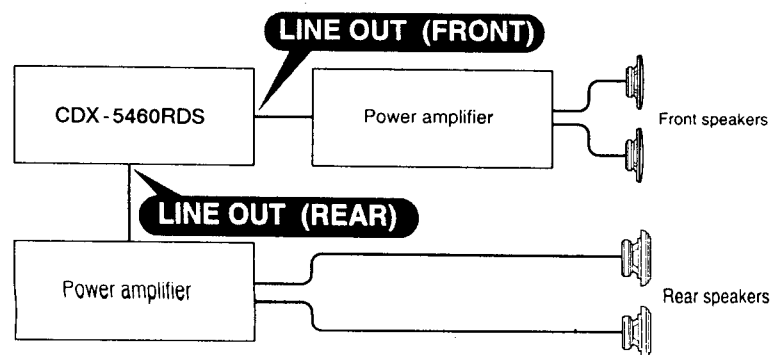
Example 1



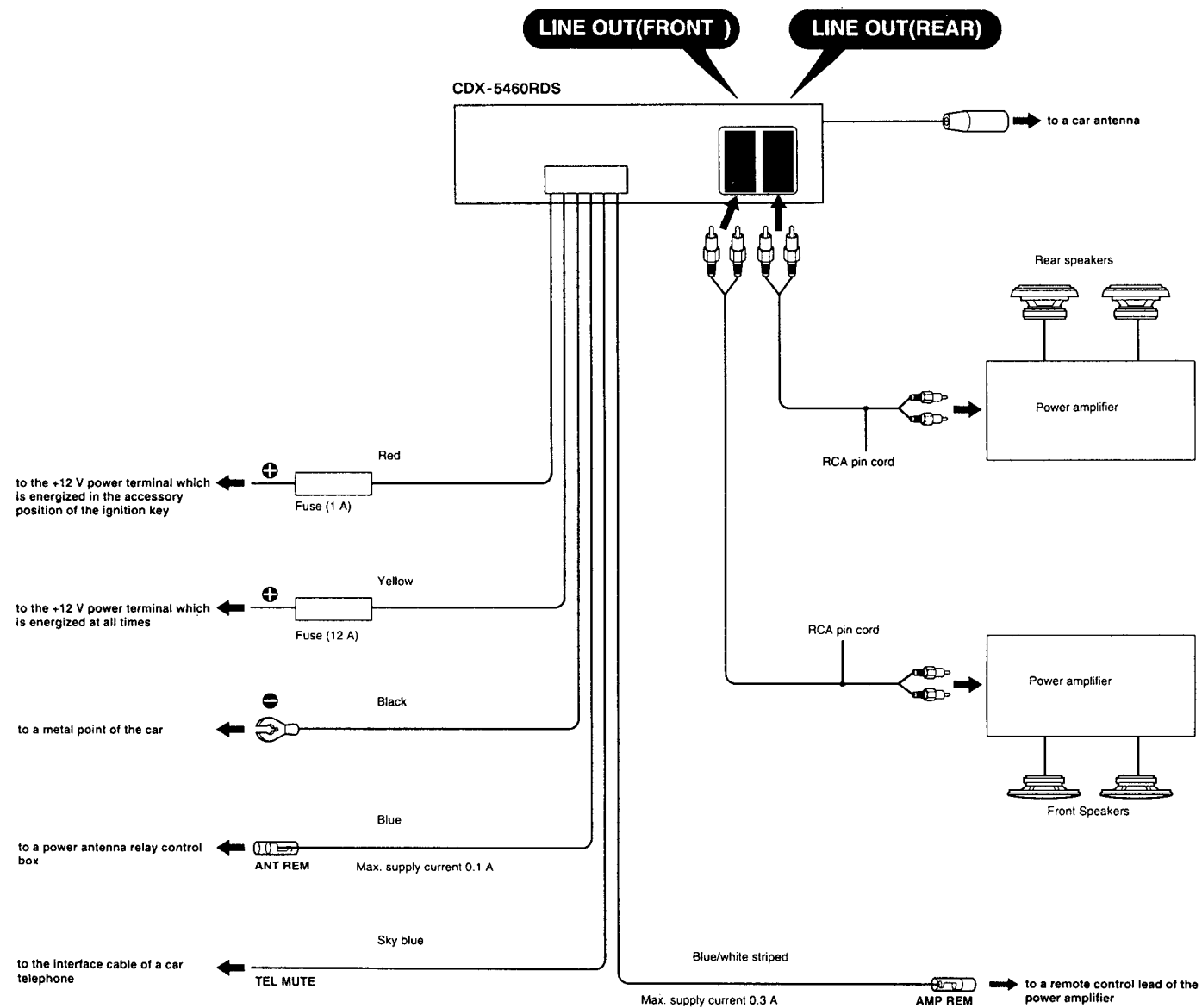
Example 2



Example 3



Connection Example 3



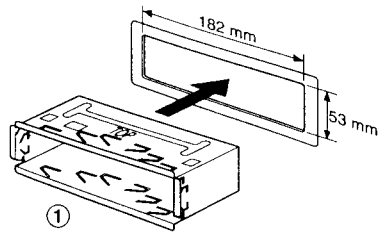
Notes on the control leads

- * The power antenna control lead (blue) supplies +12 V DC when you turn on the tuner.
- * A power antenna without relay box cannot be used with this unit.

Mounting Example

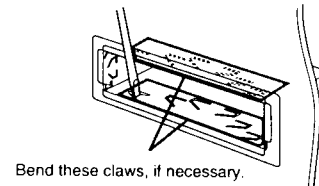
Installation in the dashboard

1

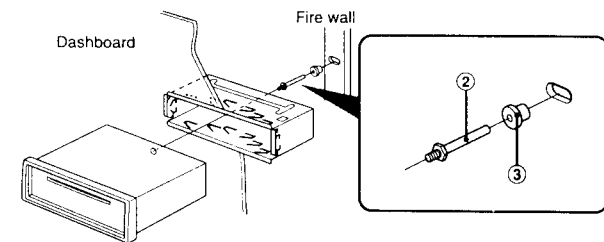


with the TOP marking up

2

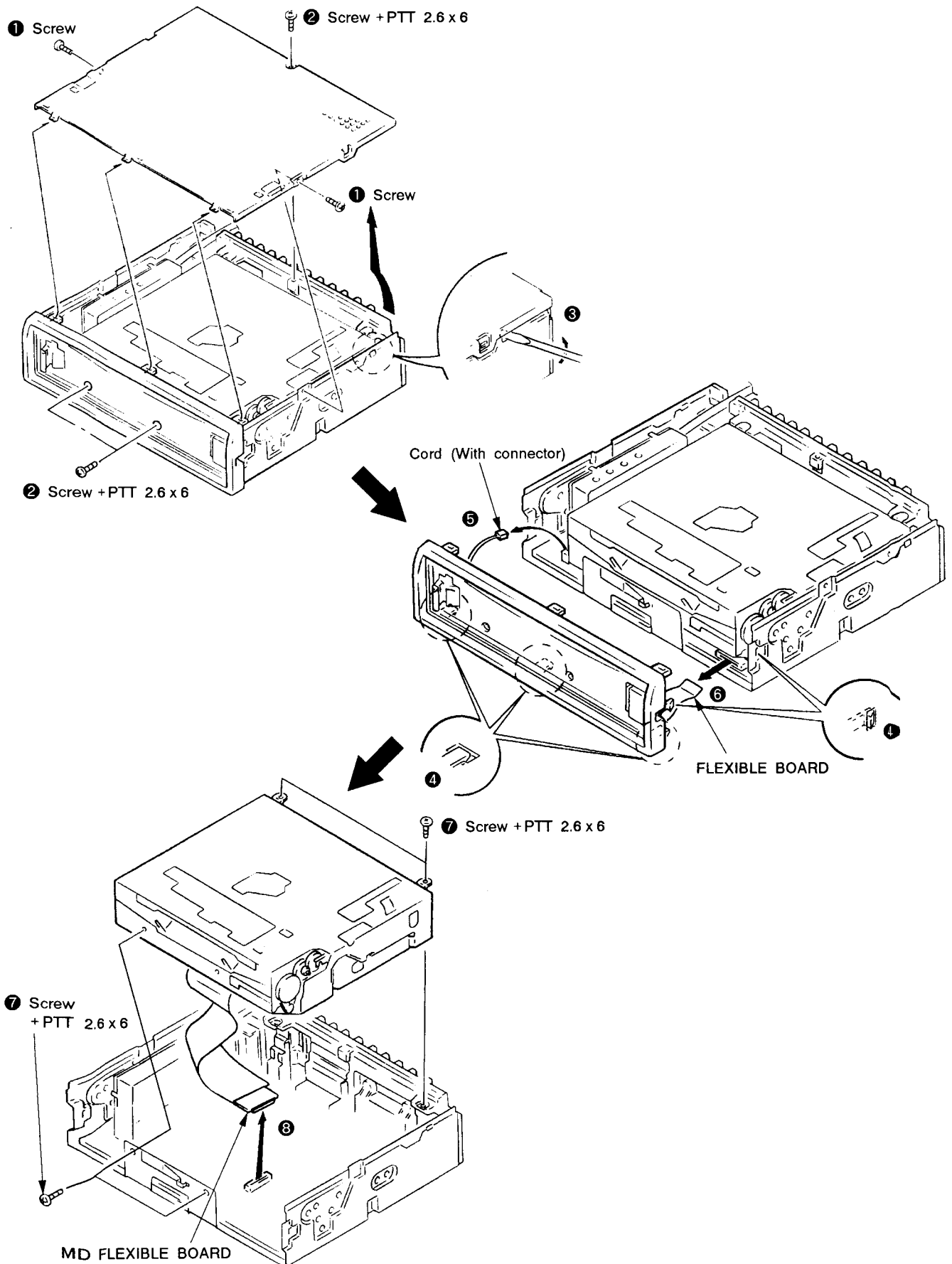


3



SECTION 2 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.



SECTION 3 TEST MODE

Setting:

Method 1

Press keys in order of ④→⑤→① for 2sec. under OFF condition.

Method 2

Pin⑦ of IC501 (SYSTEM CONTROL) → Connected to GND → **[RESET]** button (S801)

Note: While the TEST MODE is set, the following will be displayed on the LCD.
Bit display "SHUF1".

Releasing:

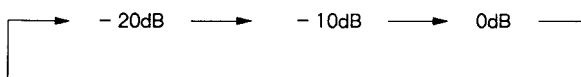
Press **[OFF]** key, or press **[RESET]** button (Open pin⑦ of IC501).

LCD display test

All segments of the display are lit up at the beginning of test mode.

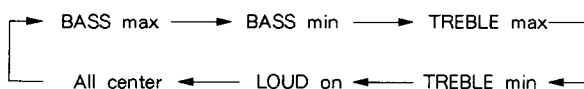
Electronic volume test

[+] key :

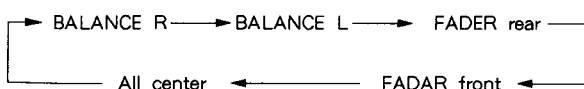


[−] key : normal operation

[SEL] key :



[MUTE] key :



CD SECTION

Audio Measurement Mode

When CD is played, the AUDIO MEASUREMENT MODE turns on.

When "YEDS-18" is played in the measuring mode, only the following Track No. will be played. (BANK function)
Each time the **[4]** key is pressed, the measuring mode turns on/off cyclically.

Note: AUDIO MEASUREMENT MODE PLAY Track No.

No. 2, 3, 6, 7, 8, 10, 12, 13, 17

(These have been set assuming that YEDS-18 will be used.)

While the audio measurement mode is set, the following will be displayed on the LCD.
Bit display "BANK"

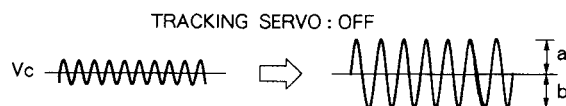
When YEDS-18 is used, the recording signals of the above TRKs are as follows.

TNO	CONTENTS	EMPHASIS	PURPOSE
2	1kHz Sine Wave 0dB L & R	OFF	Reference
3	20kHz Sine Wave 0dB L & R	OFF	Frequency
6	20kHz Sine Wave 0dB L & R	OFF	Modulation Noise
7	Infinity Zero -∞dB L & R	OFF	S/N
8	1kHz Sine Wave 0dB L	OFF	Channel Separation
10	1kHz Sine Wave 0dB R		
12	5kHz Sine Wave -4.53dB L & R	ON	De emphasis
13	16kHz Sine Wave -9.04dB L & R		
17	1kHz Sine Wave -60dB L & R	OFF	Dynamic Range

Adjusting and Checking Functions

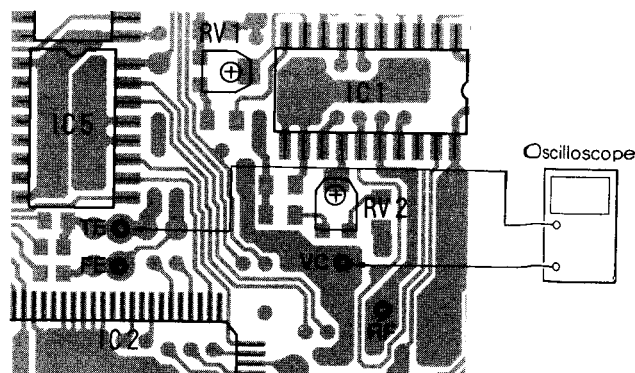
a) TRACKING OFFSET adjustment

Each time the **[INTRO]** key is pressed while the CD is played, the TRACKING SERVO turns on/off.
The bit display "INTRO" on the LCD will be lit while the TRACKING SERVO is off.



Adjustment Location and Measurement point:

[MD BOARD] (SIDE B)



Procedure:

Adjust RV1 so that the peak values of waveforms a and b become equal.

b) Focus search retry mode

Each time the **[REP]** key is pressed while the CD is played, the FOCUS SEARCH RETRY MODE turns on/off.

When the FOCUS does not turn on in the FOCUS SEARCH RETRY MODE, the FOCUS search is repeated. Once the FOCUS turns on, the unit sets into the PLAY condition.

During the FOCUS SEARCH RETRY MODE, the "REPI" bit display on the LCD will be lit.

Note: This mode is for checking the unit when FOCUS cannot be set.

CD Error Display

During CD PLAY in the TEST MODE, the following ERROR displays will be shown when CD errors occur. "E- n1 n2"

n1 to n2 are determined by ERROR symptoms as shown below.

n1	n2
1: SERVO ERROR	1: FOCUS ERROR 2: GFS ERROR 3: SLED MAX TIME OVER 4: SLED OVERRUN 5: TOC READ ERROR
3: LOADING /EJECT ERROR	1: MAX TIME OVER (When sensor is passed during loading.) 2: Loading of only 8cm CD, adaptor, etc. 3: MAX TIME OVER (Until chucking ends during loading.) 4: MAX TIME OVER (Until EJECT ends during ejecting.)
4: TRACK JUMP	1: FOCUS DOWN 2: TRACK JUMP 3: HANG UP
D: TEMP (HOT)	0
F: MD GIVE UP	7: EJT

TUNER SECTION

When the tuner is turned on in the TEST MODE, all bands will first be set to f_{min} .

SEEK STOP TEST Function

- a) When the **[SEEK +]** key is pressed, the unit is set to a frequency -10 steps from the f_{center} and automatically seeks up to the f_{center} .
- If the unit seek stops at the f_{center} :
The unit sets into the f_{center} reception state. Preset No. "1" will be displayed.
 - If the unit seeks up to the f_{center} and cannot seek stop:
It returns to the -10 step frequency and seeks up again.
 - If the unit seek stops before the f_{center} :
The unit receives that frequency. Preset No. "3" will be displayed.

- b) When the **[SEEK -]** key is pressed, the unit is set to a frequency $+10$ steps from the f_{center} and automatically seeks down to the f_{center} . Hereafter the same as the **[SEEK +]** key.

- c) When the **[MANU +]** key is pressed, the unit is set to a frequency -10 steps from the f_{max} and seeks up. Hereafter the same as a) except that f_{center} is replaced by f_{max} .

- d) Press the **[MANU -]** key to carry out normal MANUAL search down operations.

BAND SELECT

During TEST MODE, only the single band can be selected.

AGC CUT Function

In the AM ON condition, this function activates the **SEEK** port (IC603) and cuts AGC.

In the AGC CUT condition, the following displays on the LCD will light up.

Bit display "TP"

When the **[M.SCAN/BTM]** key is pressed for more than two seconds, AGC CUT turns on/off cyclically. (The BTM function is unavailable.)

Note: Set the AGC CUT condition when adjusting the AM SEEK STOP sensitivity.
If the band changes from FM to AM, be sure to turn on the AGC CUT.

SD Signal Display (For adjusting SEEK STOP LEVEL)

If the SD signal becomes high while a certain frequency is being received, after BAND displays such as "FM", "AM", etc. are shown, the following displays will light up.

"0" display

When the SD signal is low, nothing will be shown after the BAND is displayed.

BTM Signal Level Display Function (For adjusting RDS S meter)

When the M.SCAN key is pressed, the level of the S meter voltage of the A/D conversion input will be displayed. (Displayed at frequency display)

* Input FM f_{center} 35 dB μ no-modulation at SG, and adjust (RV601) the BTM signal level displayed to 0.6. Press MANU + / -, etc. to return the frequency display. M.SCAN operations are unavailable.

BAND	f_{min}	f_{center}	f_{max}	step(SEEK)	step(MANUAL)
FM	87.50MHz	98.00MHz	108.00MHz	50kHz	50kHz
MW	531kHz	999kHz	1602kHz	9kHz	9kHz
LW	153kHz	216kHz	281kHz	9kHz	1kHz

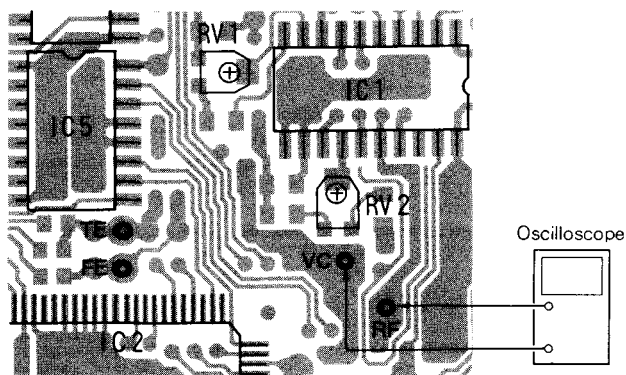
SECTION 4 ELECTRICAL ADJUSTMENTS

CD SECTION

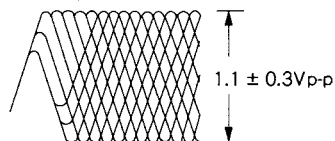
Focus Offset Adjustment

Adjustment Location and Measurement point:

【MD BOARD】(SIDE B)



Volt/div : 200mV
Time/div : 0.5 μ sec



Procedure:

1. Connect the oscilloscope to test point **RF** on the MD board.
2. Load a disc and set mode to PLAY.
3. Adjust RV2 so that the waveform on the oscilloscope (eye pattern) is maximum with good shape. "Well-shaped eye pattern" means that the mark "◇" is clearly distinguished at the center of the waveform.

Tracking Offset Adjustment

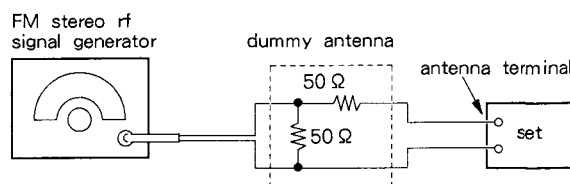
Refer to the "TEST MODE CD SECTION".

TUNER SECTION

FM Seek Stop Level Adjustment (FM SD Adjustment)

Setting:

Band : FM
Frequency : 98MHz

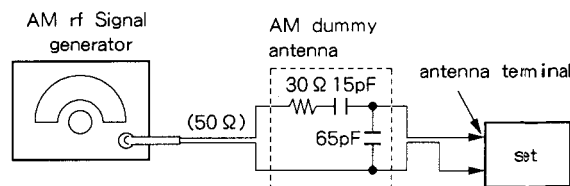


Carrier frequency : 98MHz
Modulation : 1kHz, 75kHz
Output level : 22dB (12.6 μ V)

AM Seek Stop Level Adjustment (AM SD Adjustment)

Setting:

Band : AM
Frequency : 999kHz



Carrier frequency : 999kHz
Modulation : 400Hz 30%
Output level : 32dB (40 μ V)

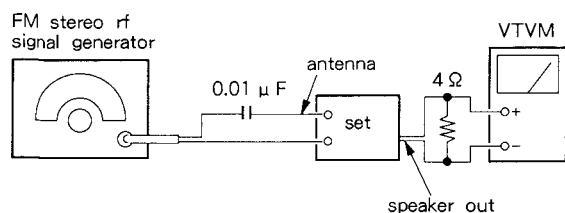
Procedure:

1. Set the "SD Signal Display" MODE of the TEST MODE.
2. Adjust RV3 (FM), RV1 (AM) of the TUNER UNIT, and erase the SD display "0" once.
3. Adjust RV3 (FM), RV1 (AM) so that a SD display lights up again.
4. Check with the "SEEK STOP TEST" function of the TEST MODE.

FM Stereo Separation Adjustment

Setting:

BAND : FM Stereo
Frequency : 98MHz

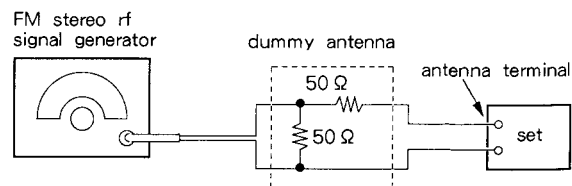


Carrier frequency : 98MHz
Modulation : Main channel : 1kHz, 33.75kHz deviation (45%)
Pilot signal : 18kHz, 7.5kHz deviation (10%)
Subchannel : 1kHz, 33.75kHz deviation (45%)
Output level : 1mV (More than 35dB)

RDS S-METER Adjustment

Setting:

Band : FM
Frequency : 98MHz



Carrier frequency : 98MHz
Modulation : no-modulation
Output level : 35dBμ (56.2μV)

Procedure:

Refer to "TEST MODE TUNER SECTION".
(BTM Signal Level Display Function)

Procedure:

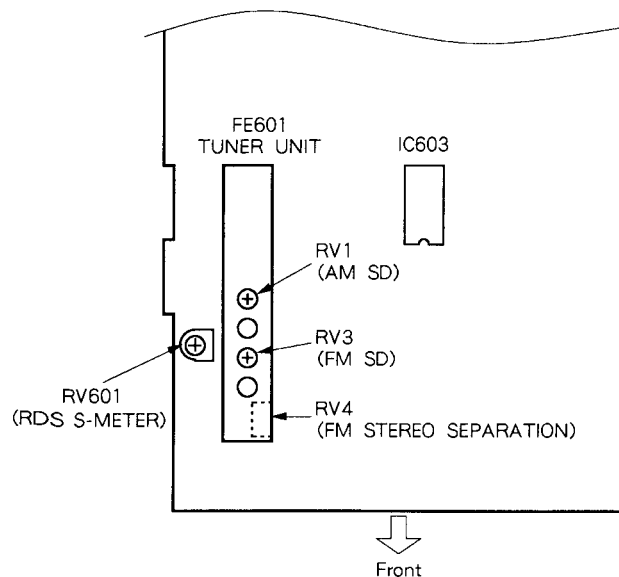
FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV4 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV4 for minimum reading.

Note: The separation values in the two channels should be identical.

$$\text{Ⓐ} - \text{Ⓑ} = \text{Ⓒ} - \text{Ⓓ}$$

Adjustment Location:

[MAIN BOARD] (SIDE A)



SECTION 5 DIAGRAMS

5-1. IC PIN DESCRIPTION

•IC501 SYSTEM CONTROL (μ PD75518GF-088-3B9)

Pin No.	Pin Name	I / O	Description									
1	KI0	I	Key input pin. (A/D conversion input.)									
2	VREF	I	Reference voltage input pin of A/D conversion pins.									
3	VDD	I	Power supply input. (5V)									
4	VDD	I										
5	CD DATA	O	SERIAL DATA output pin for the CD servo IC.									
6	CD CLK	O	SERIAL CLOCK output pin for the CD servo IC.									
7	CD LATCH	O	SERIAL DATA LATCH output pin for the CD servo IC.									
8	CD RST	O	CD servo IC resetting output pin.									
9	CD ON	O	Power supply ON/OFF control output pin. (CD servo IC)									
10	MD ON	O	Power supply ON/OFF control output pin. (Mechanism deck section)									
11	LM +	O	Loading motor control output pins. <table><tr><td></td><td>LM -</td><td>LM +</td></tr><tr><td>FWD (Loading)</td><td>L</td><td>H</td></tr><tr><td>REV (Eject)</td><td>H</td><td>L</td></tr></table>		LM -	LM +	FWD (Loading)	L	H	REV (Eject)	H	L
	LM -		LM +									
FWD (Loading)	L		H									
REV (Eject)	H	L										
12	LM -											
13	N.C	-	Connected to GND.									
14	N.C	-										
15	AMP-CONT	O	MUTE output pin for power amp IC.									
16	SCLK	O	SERIAL CLOCK output pin.									
17	N.C	-	Not used.									
18	LCD DATA	O	SERIAL DATA output pin for the LCD driver.									
19	LCD CLK	O	SERIAL CLOCK output pin for the LCD driver.									
20	TUNER ON	O	ON/OFF control of the tuner block power supply ANT REM.									
21	SQCK	O	CLOCK output pin for reading the Q DATA.									
22	VOL CE	O	CE output pin to the electronic VOL. IC.									
23	VOL CLK	O	SERIAL CLOCK to the electronic VOL. IC.									
24	VOL DATA	O	SERIAL DATA to the electronic VOL. IC.									
25	SUBQ	I	Q DATA input pin.									
26	BUS CLK	O	SERIAL CLOCK output pin for BUS communication.									
27	TV	I	Initial setting pin for the TV/VIDEO key.									
28	PS SW	I	Power select SW input pin.									
29	SCOR ACT	O	Activate for SCOR line.									
30	APC	O	CD pick-up laser power ON/OFF control output.									
31	N.C	-	Not used.									
32	EMP ON	O	Outputs "L" when a DISC which has been pre-emphasized is played back.									
33	VSS	-	Connected GND.									
34	SW3	I	Mechanism deck sensor (loading/eject) input pin.									
35	SW2	I	Mechanism deck sensor (loading/eject) input pin.									
36	SW1	I	Mechanism deck sensor (loading/eject) input pin.									
37	DISC SW	I	Mechanism deck sensor input pin. Detects the completion of the DISC chucking operation.									
38	LAMP ON	O	Not used.									

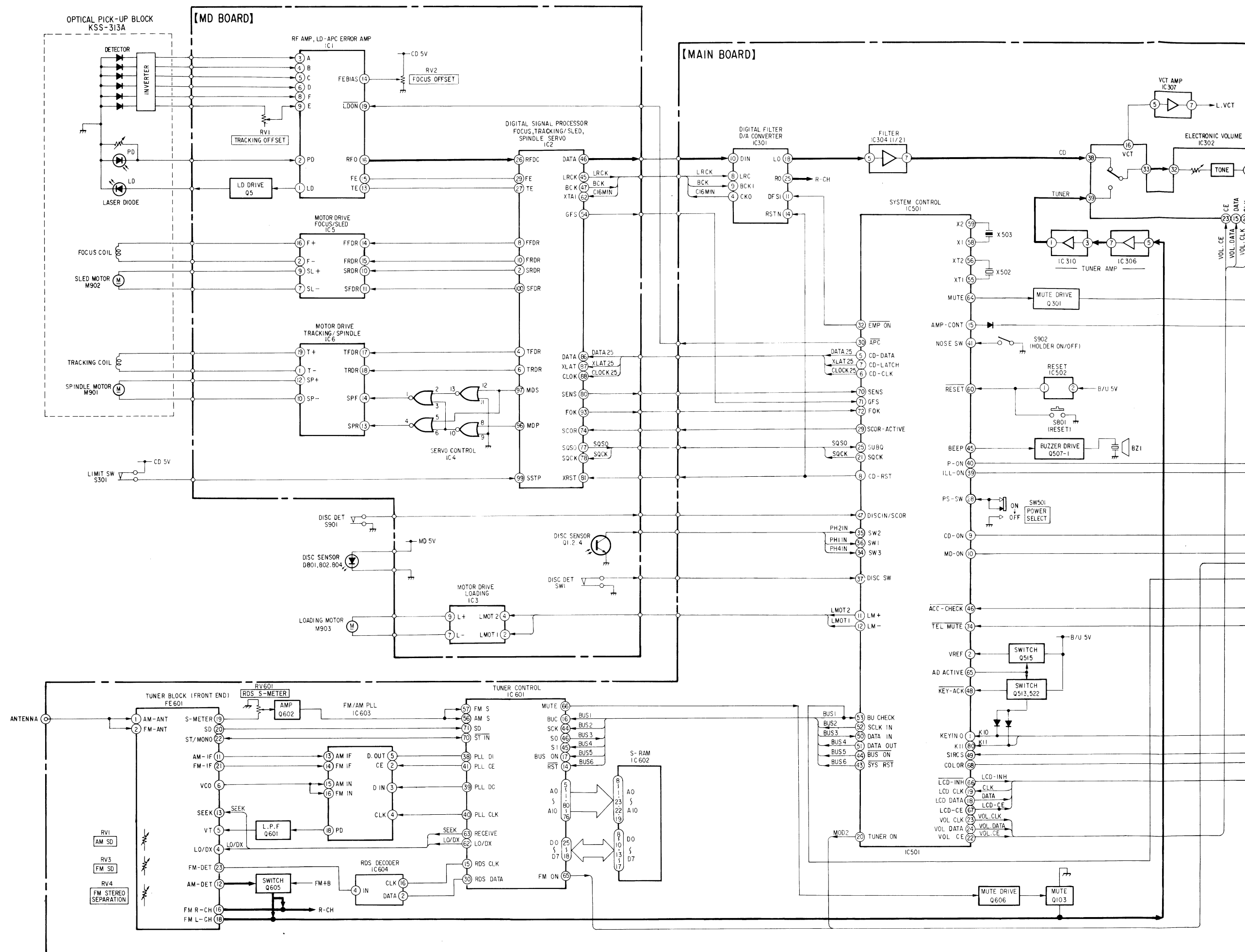
Pin No.	Pin Name	I / O	Description
39	ILL ON	O	Illumiation control output pin.
40	P ON	O	ON/OFF control pin of the power supply.
41	NOSE SW	I	Front panel Ass'y removal and attaching detection.
42	DIG OUT ON	O	Not used.
43	SYS RST	O	RESET output pin for UNILINK system.
44	BUS ON	O	When the BUS is in the ACTIVE condition, the BUS ON line in the BUS will become "H". This pin controls the ON/OFF of this BUS ON 5V.
45	BEEP	O	Alarm drive output pin.
46	ACC CHECK	I	ACC line ON/OFF detection.
47	IN SW/SCOR	I	CD PLAY : SCOR input pin. Others : MD roller open/close detect input.
48	KEY ACK	I	Front panel key detecton.
49	SIRCS	I	SIRCS signal input pin.
50	DATA IN	I	DATA input pin for BUS communication.
51	DATA OUT	O	SERIAL DATA output pin for BUS communication.
52	S CLK IN	I	SERIAL CLOCK input pin for BUS communication.
53	BU CHECK	I	BATT line ON/OFF detection.
54	Vss	—	Connected to GND.
55	XT1	—	The SYSTEM CLOCK (32.768kHz) for internal clock.
56	XT2	—	
57	Vss	—	Input pin for system reset.
58	X1	—	The SYSTEM CLOCK (6.0MHz) for system control IC.
59	X2	—	
60	RESET	I	Input pin for system reset.
61	N.C		
62	N.C		
63	N.C		
64	MUTE	O	Audio MUTE output pin.
65	AD ACTIVE	O	VREF control pin of A/D conversion pins.
66	LCD INH	O	Pin which outputs INH to the LCD driver IC.
67	LCD CE	O	Pin which outputs CE to the LCD driver IC.
68	COLOR	O	Output pin for switching lighting colors. (AMBER/GREEN)
69	FILE	I	Initial setting pin for FILE key.
70	SENS	I	SENS input pin from CD servo IC.
71	GFS	I	GFS input pin from CD servo IC.
72	FOK	I	FOK input pin fromt CD servo IC.
73	Vss	—	Connected to GND.
74	TEL MUTE	I	Telephone MUTE input pin.
75	DIG OUT	I	Connected to GND.
76	TEST	I	When dropped to "L", TEST MODE will be set.
77	ALARM	I	Initial setting for caution alarm function.
78	TEMP-H	I	Temperature detection (High)
79	TEMP-L	I	Temperature detection (Low)
80	KI1	I	Key input pin (A/D conversion input)

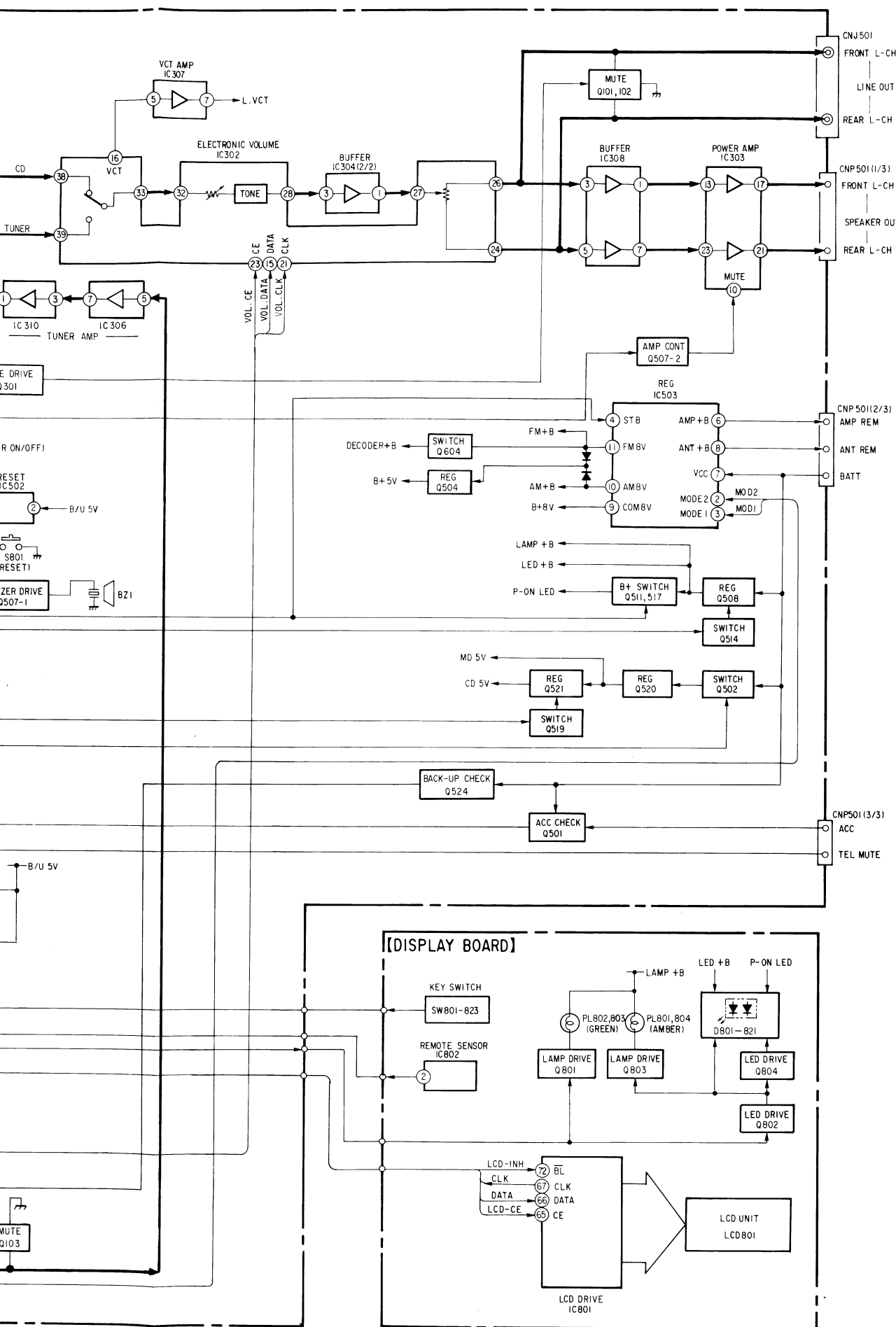
• IC601 TUNER CONTROL (MN18P83217-FAP)

Pin No.	Pin Name	I / O	Description
1	A5	O	S-RAM ADDRESS control output.
2	A4		
3	A3		
4	A2		
5	A1		
6	A0		
7	VDD	—	Power supply pin.
8	X1	—	Connecting pins of the ceramic oscillator.
9	X2	—	
10	GND	—	
11	XTI	—	Not used.
12	XTO	—	
13	EX2	—	Connected to GND.
14	RESET	I	Reset input pin.
15	RDS CLK	I	RDS CLK input pin.
16	BU CHECK	I	BACK-UP detection.
17	BUS ON	I	BUS INTERFACE ON/OFF detection.
18	D7	I/O	S-RAM DATA BUS.
19	D6		
20	D5		
21	D4		
22	D3		
23	D2		
24	D1		
25	D0		
26	RE	O	S-RAM READ ENABLE output.
27	WE	O	S-RAM WRITING ENABLE output.
28	TERM	—	Not used.
29	R/W	—	
30	RDS DATA	I	RDS DATA input.
31	DEV SENS	I	FM audio level detection input.
32	S3	—	Not used.
33	S2	—	
34	S1	—	
35	S0	—	
36	—	—	Connected to GND.
37	—	—	
38	PLL DI	I	PLL DATA input.
39	PLL DO	O	PLL DATA output.
40	PLL CLK	O	PLL CLK output.
41	PLL CE	O	PLL CE output.
42	REQUEST	O	BUS REQUEST output.
43	LINK OFF	O	BUS LINK-OFF output.
44	SCK	I	BUS INTERFACE CLK input.
45	SI	I	BUS INTERFACE DATA input.
46	SO	O	BUS INTERFACE DATA output.
47	VDD	—	Power supply pin.

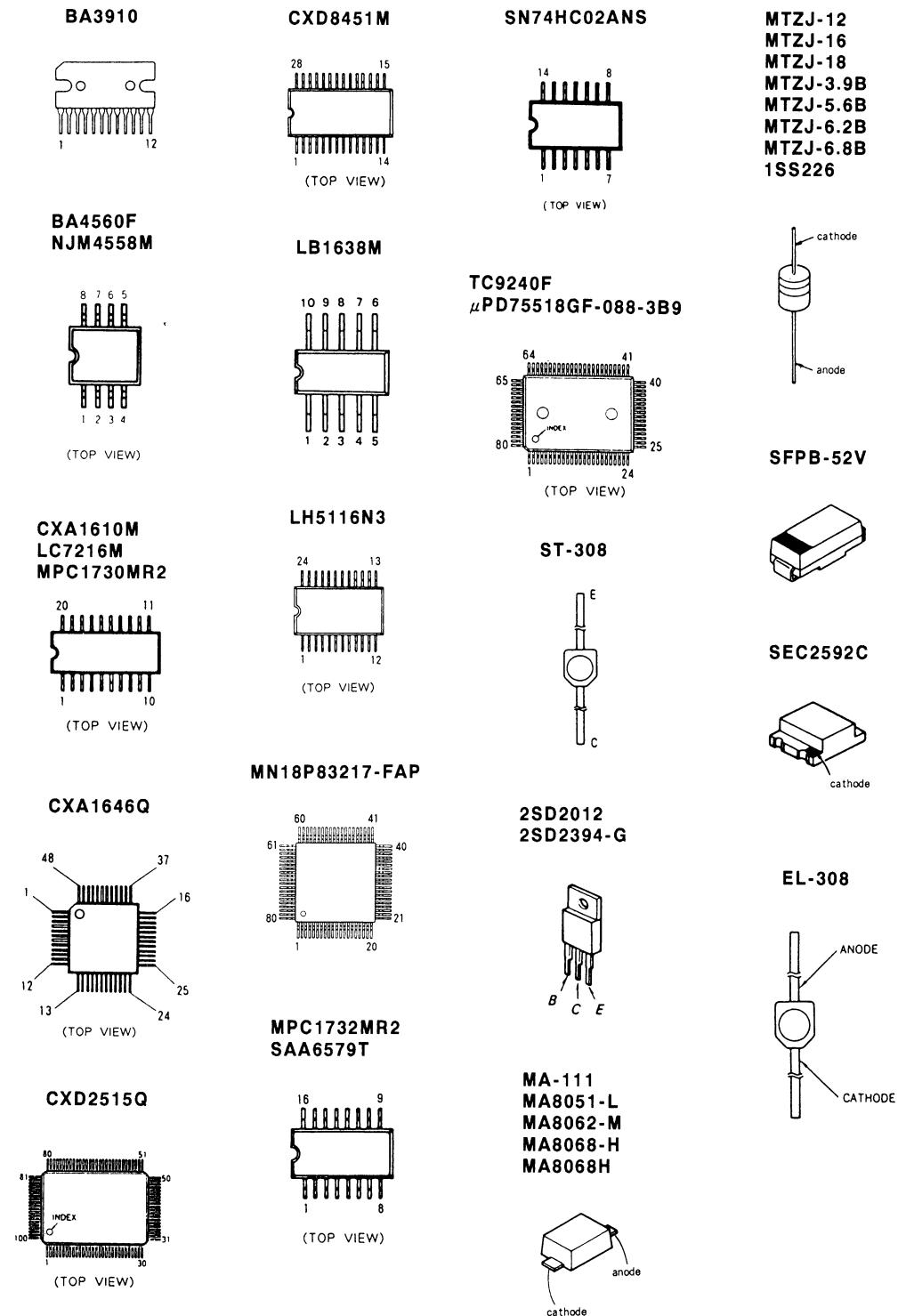
Pin No.	Pin Name	I / O	Description
48	AVDD	—	Power supply pin. (For A/D conversion ports.)
49	VREF +	I	Reference voltage input pin.
50	—	—	Not used.
51	—		
52	—		
53	—		
54	MS1	I	Mode select input.
55	MS0	I	
56	AM VSM	I	S-METER voltage detection input. AM (MW : SW : LW) / FM
57	FM VSM	I	
58	VREF —	I	Connected to GND.
59	AVSS	—	
60	GND	—	
61	TUNER ON	O	Not used.
62	$\overline{\text{DX}}/\text{LO}$	O	$\overline{\text{DX}}/\text{LO}$ control output.
63	$\overline{\text{SEEK OUT}}$	O	SEEK OUT output.
64	AM ON	O	Not used.
65	FM ON	O	FM ON output.
66	MUTE	O	MUTE output.
67	AF SEEK	O	Not used.
68	SRAM	O	External S-RAM control output.
69	A15	O	Not used.
70	ST IN	I	Stereo input pin.
71	SD IN	I	SD input pin.
72	A14	O	Not used.
73	A13	O	
74	RAM CE	O	S-RAM CE output.
75	A11	O	S-RAM ADDRESS control output.
76	A10		
77	A9		
78	A8		
79	A7		
80	A6		

5-2. BLOCK DIAGRAM





5-3. SEMICONDUCTOR LEAD LAYOUTS



5-4. PRINTED WIRING BOARDS – MD Section –

• See Page 30 for Semiconductor Lead Layouts.

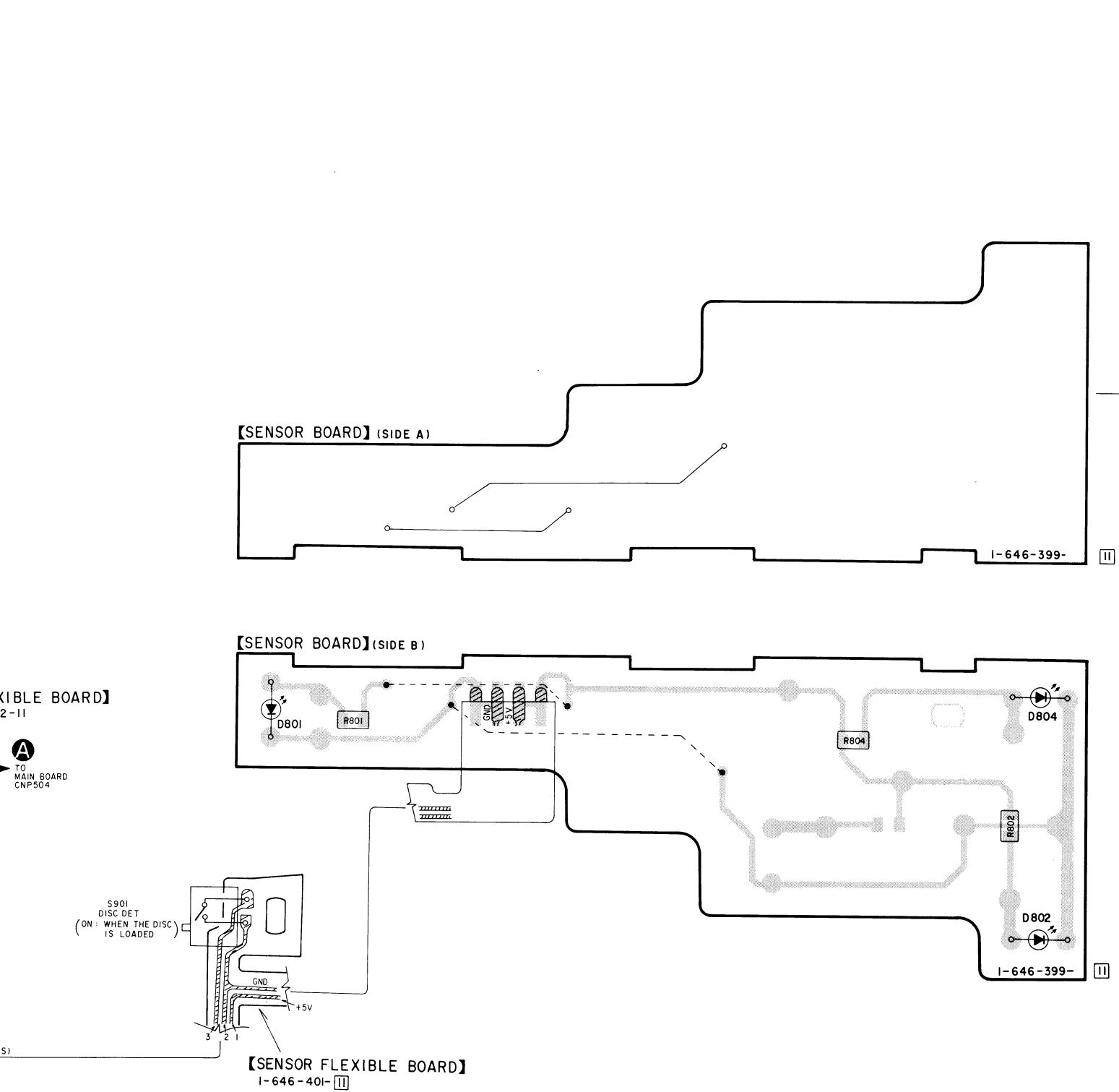
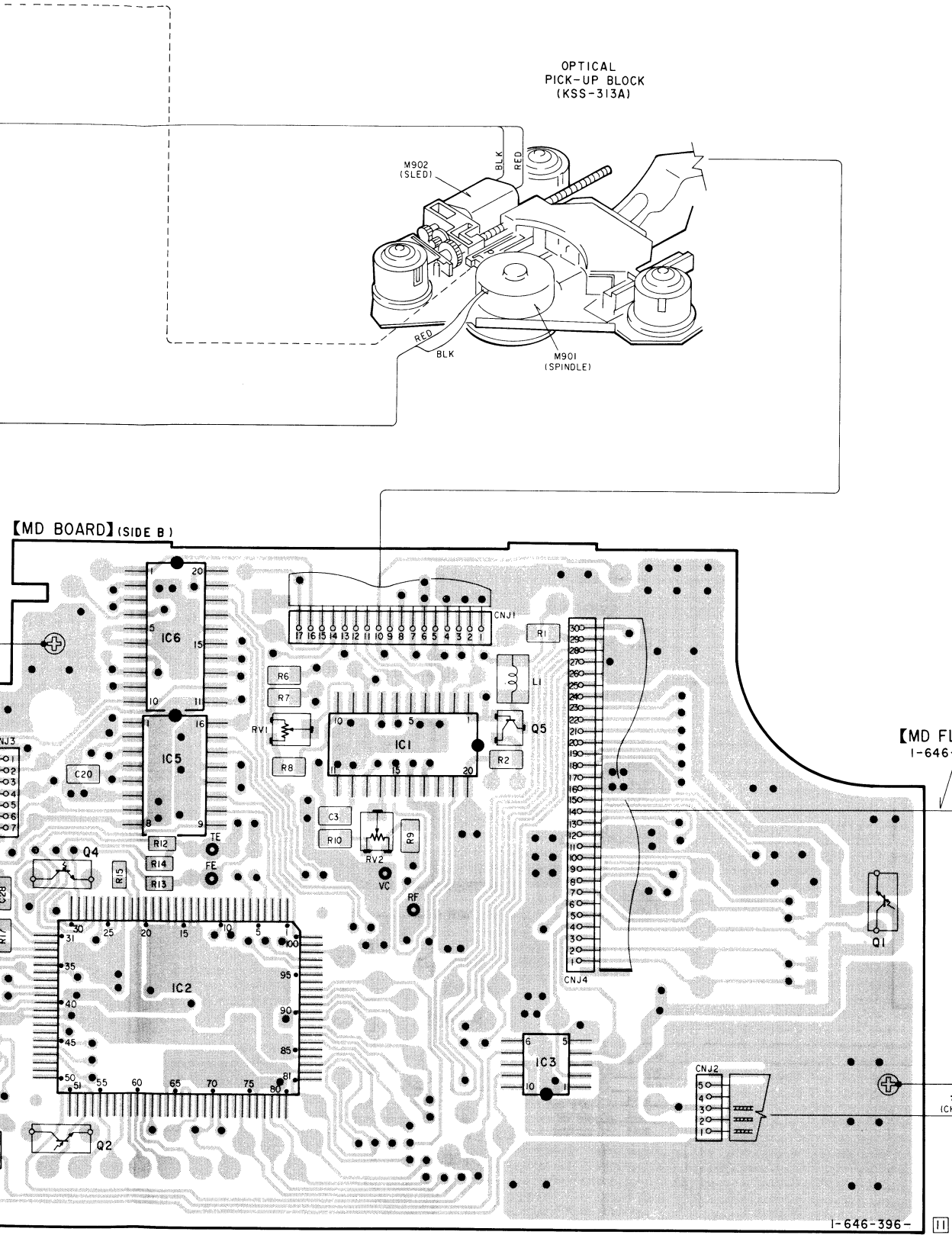
● Semiconductor Location

Ref. No.	Location
D801	F-18
D802	H-24
D804	F-24
IC1	F-12
IC2	H-10
IC3	H-13
IC4	F-6
IC5	F-10
IC6	E-10
Q1	G-15
Q2	J-10
Q4	G-10
Q5	F-13

Note:

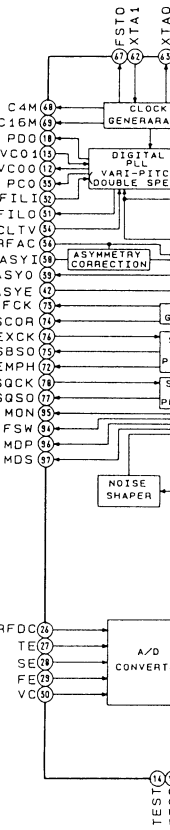
- ○ — : parts extracted from the component side.
- ● : Through hole.
- ■ : Pattern from the side which enables seeing.
(The other layers patterns are not indicated.)



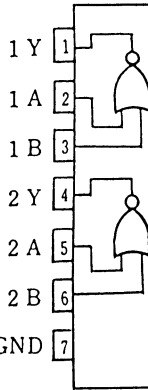




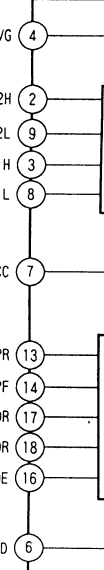
IC2 CXD2515



IC4 SN74

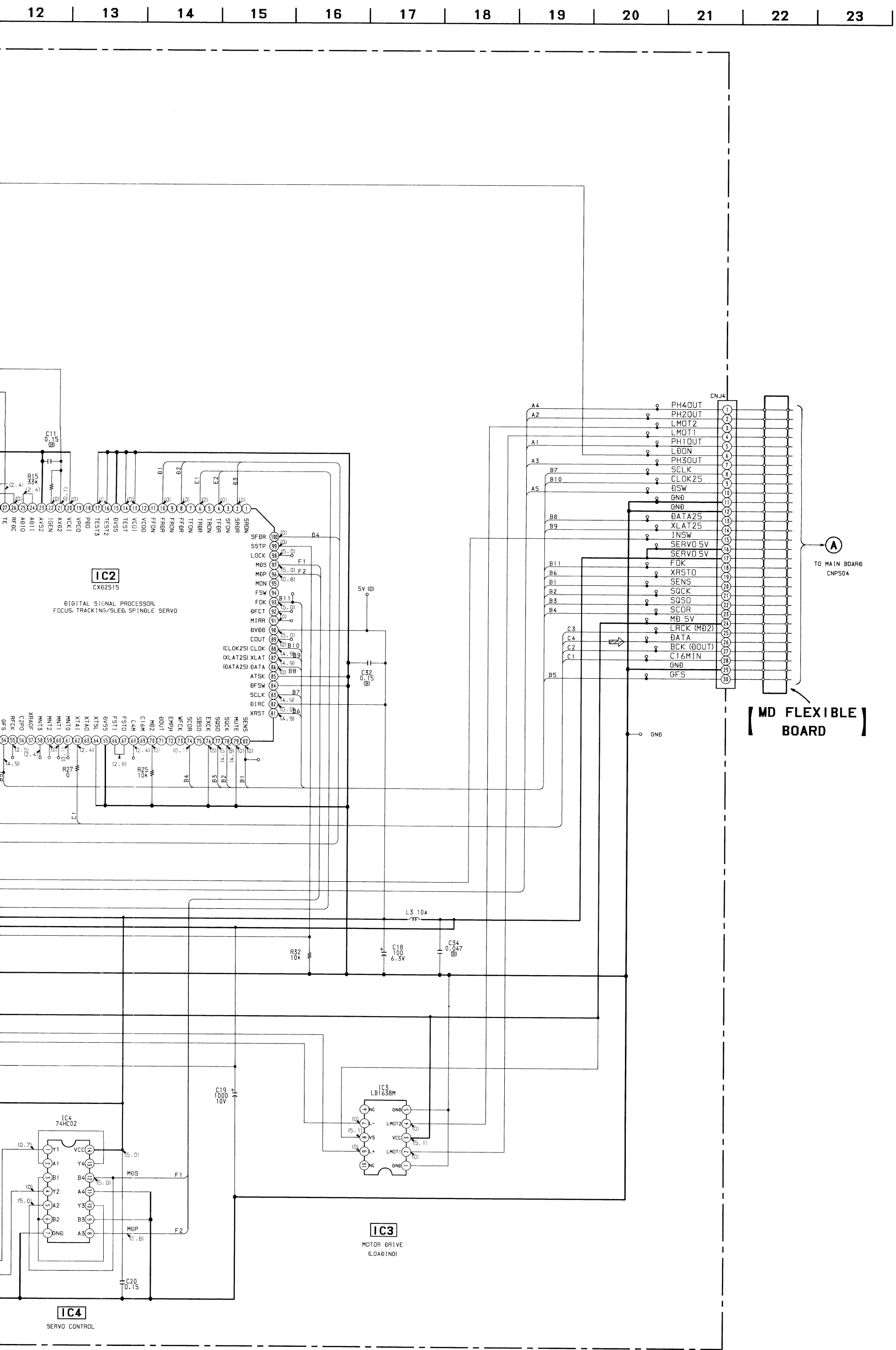


IC6

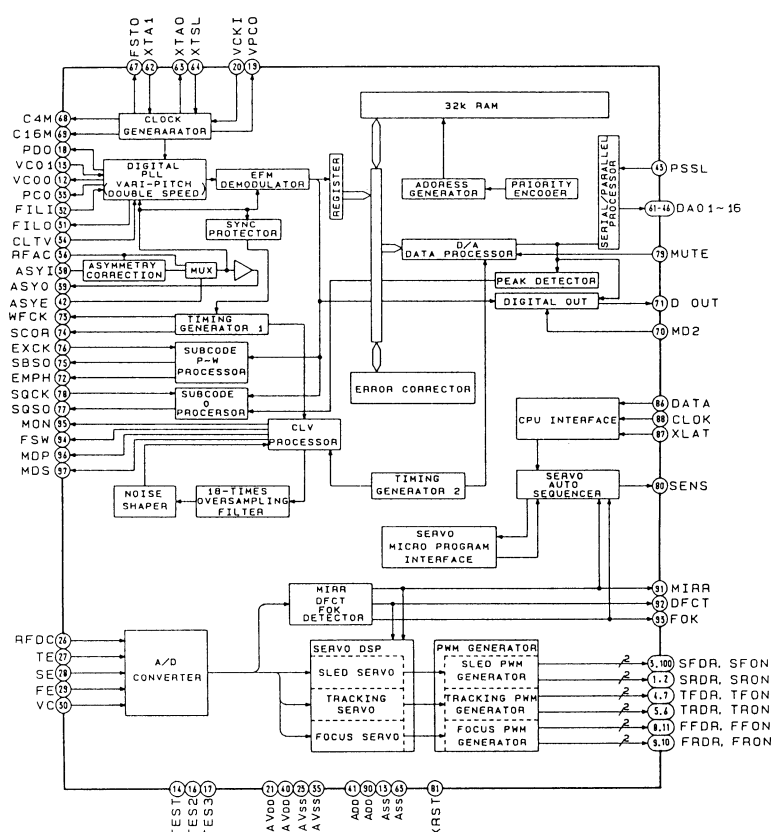


Note:

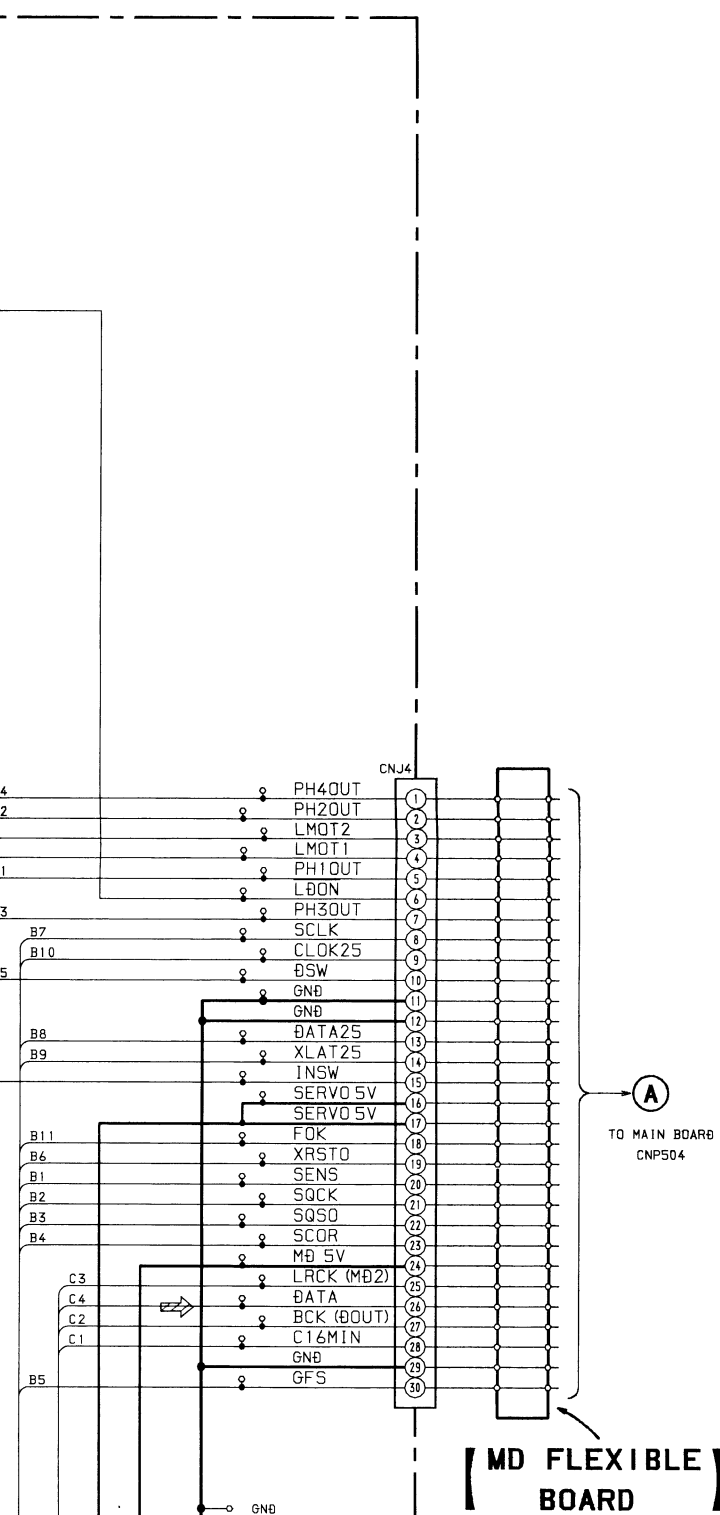
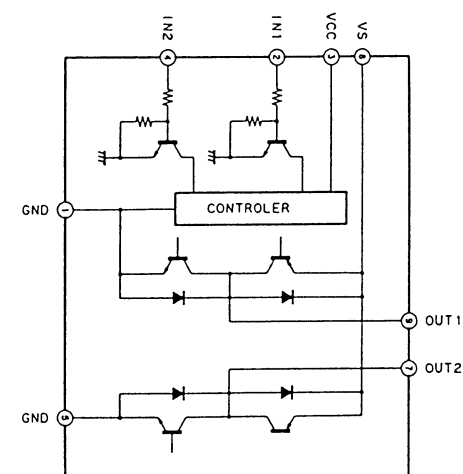
- All capacitors are 50WV or less and tantalums.
- All resistors are in ohms unless otherwise specified.
- — : B+ line.
- □ : adjustment.
- Voltage and waveforms are shown for no-signal condition.
- () : CD



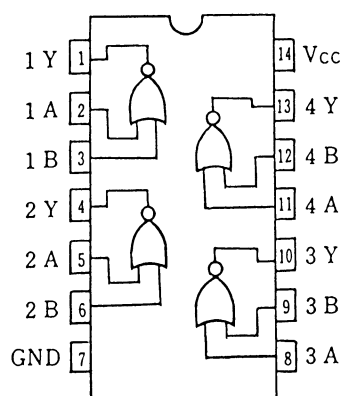
IC2 CXD2515Q



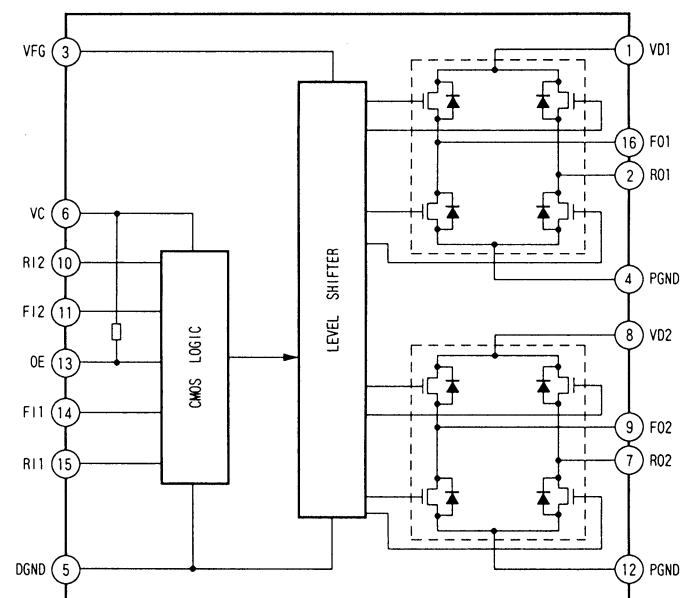
IC3 LB1638M



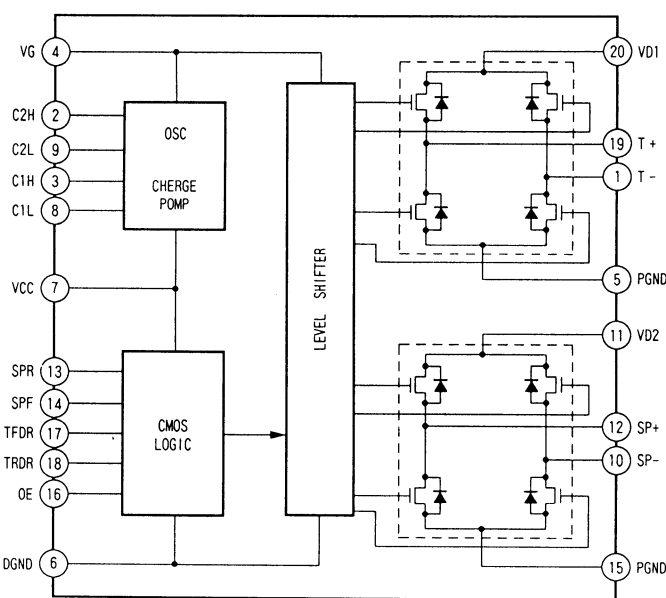
IC4 SN74HC02ANS



IC5 MPC1732M



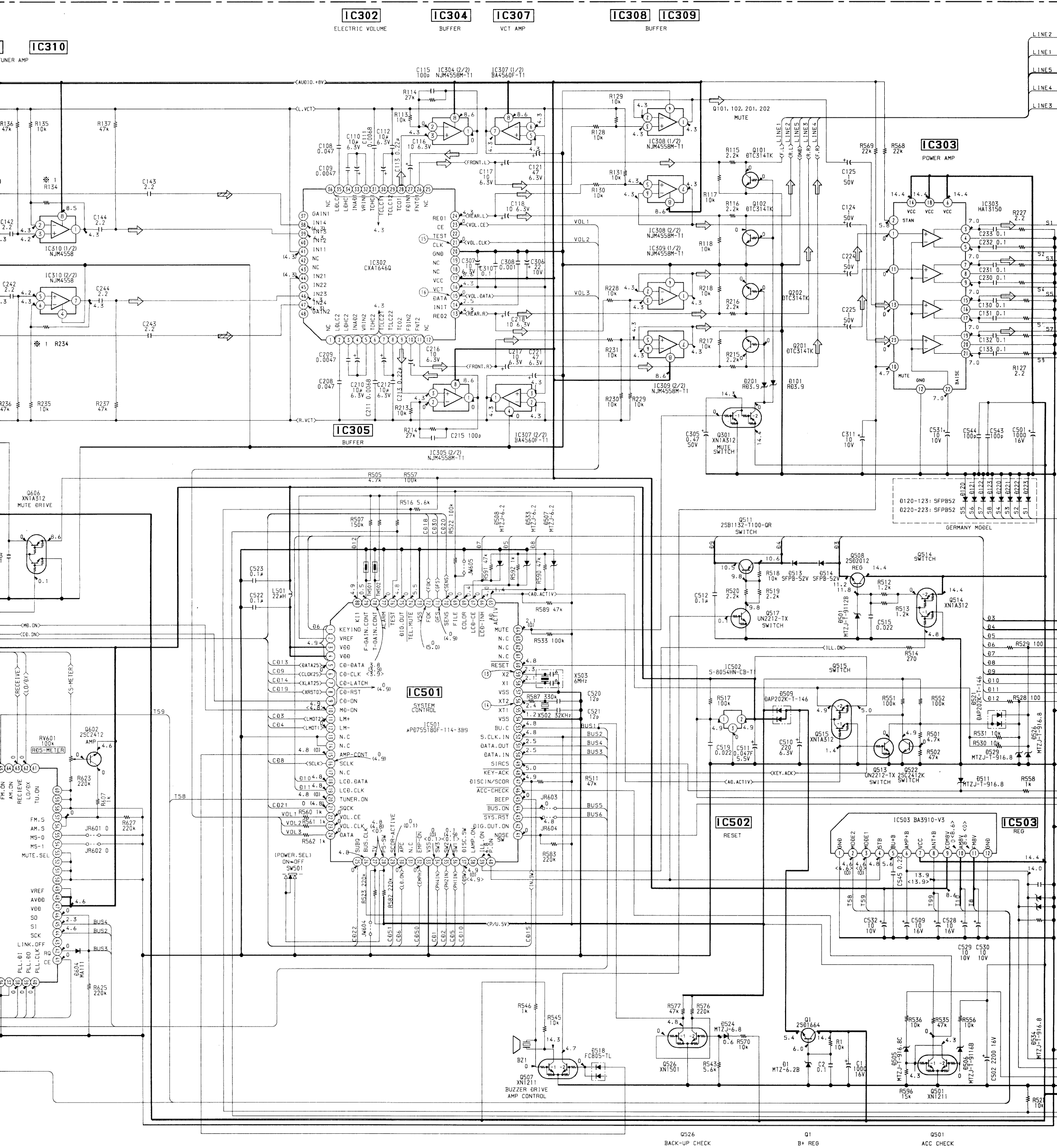
IC6 MPC1730M



Note:

- All capacitors are in μF unless otherwise noted. pF : $\mu\mu\text{F}$
50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
-  : B+ line.
-  : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- () : CD
- Voltages are taken with a VOM. (Input impedance $10\text{M}\Omega$)
Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
 : CD



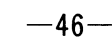


• See Page 30 for Semiconductor Lead Layouts.

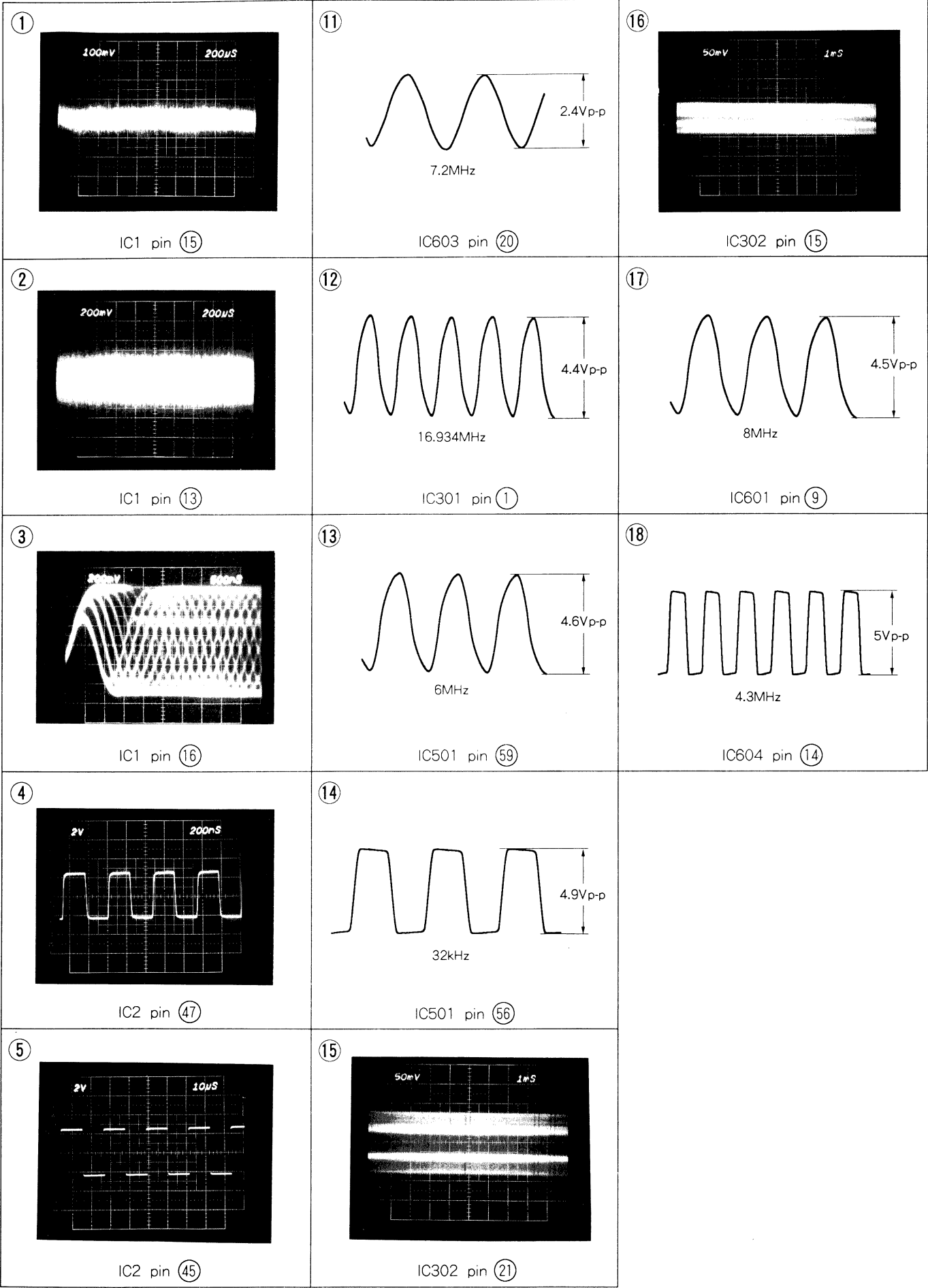
Ref. No.	Location	Ref. No.	Location
D1	D-13	IC306	K-4
D101	D-20	IC307	F-3
D120	D-6	IC308	F-5
D121	D-7	IC309	F-8
D122	D-7	IC310	F-9
D123	D-8	IC501	I-7
D201	D-21	IC502	H-10
D220	D-6	IC503	D-12
D221	D-6	IC601	H-5
D222	D-5	IC602	H-3
D223	D-5	IC603	G-3
D500	J-21	IC604	I-3
D501	H-13	IC605	H-3
D504	D-16	IC607	G-3
D505	D-15		
D506	D-15	Q1	C-10
D507	J-13	Q101	E-4
D508	I-13	Q102	E-4
D509	F-11	Q103	J-2
D510	C-14	Q201	E-3
D511	I-13	Q202	E-3
D512	E-14	Q203	K-2
D513	H-11	Q301	D-3
D514	H-11	Q501	D-9
D515	C-14	Q502	C-3
D518	G-5	Q504	E-9
D521	H-9	Q507	H-10
D523	C-20	Q508	G-12
D524	G-13	Q511	H-13
D526	J-13	Q513	H-9
D529	K-13	Q514	H-11
D531	H-14	Q515	H-10
D532	I-13	Q517	G-13
D533	I-13	Q519	F-4
D534	D-16	Q520	C-20
D601	D-5	Q521	E-20
D604	I-19	Q522	H-9
D605	K-5	Q523	I-15
		Q526	G-10
IC301	J-8	Q601	G-3
IC302	F-7	Q602	I-5
IC303	C-18	Q604	I-4
IC304	J-7	Q605	H-21
IC305	J-7	Q606	J-5

-  : parts extracted from the component side.
- : parts extracted from the conductor side.
-  : Through hole.
-  : Pattern from the side which enables seeing.
(The other layers patterns are not indicated.)





5-8. WAVEFORMS



5-9. PRINTED WIRING BOARDS - DISPLAY Section -

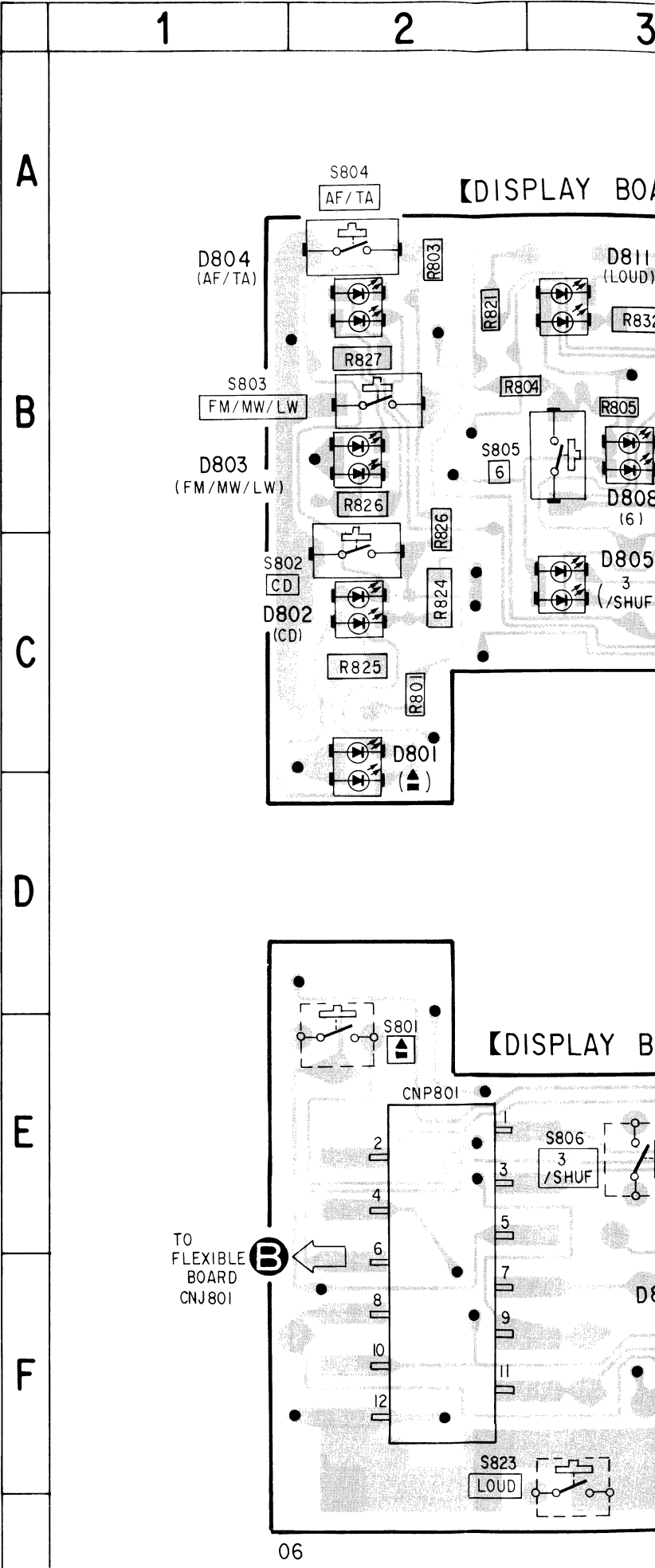
• See Page 30 for Semiconductor Lead Layouts.

• Semiconductor Location

Ref. No.	Location
D801	C-2
D802	C-2
D803	B-2
D804	B-2
D805	C-3
D806	C-3
D807	C-4
D808	B-3
D809	B-4
D810	B-5
D811	A-3
D812	B-4
D813	B-4
D814	B-5
D815	B-6
D816	B-8
D817	A-9
D818	A-9
D819	B-10
D820	C-11
D821	B-11
D824	E-7
D825	E-5
D826	E-11
D827	F-3
IC801	F-9
IC802	C-11
Q801	F-4
Q802	F-5
Q803	E-6
Q804	E-6

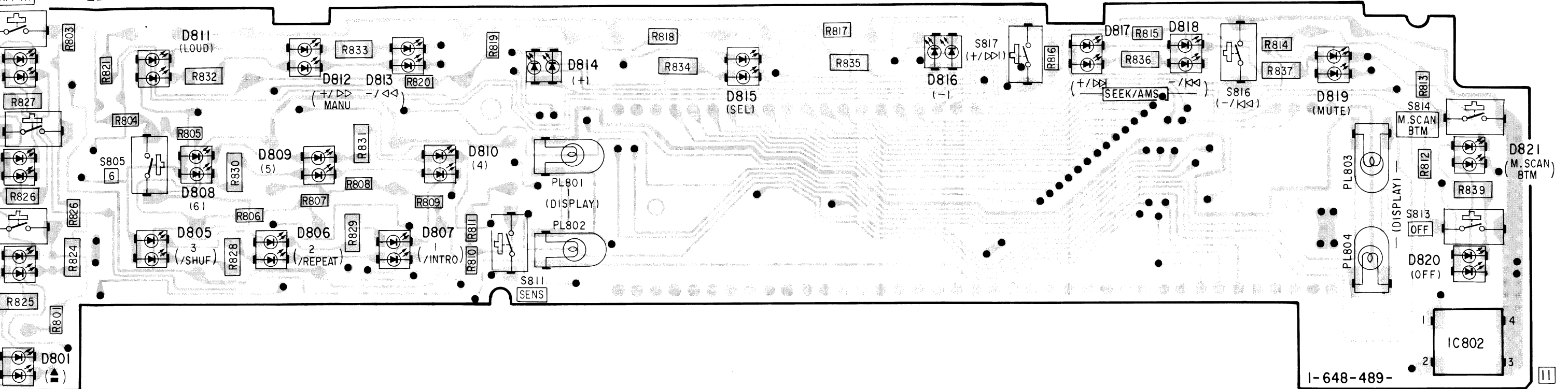
Note:

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : Through hole.
- Pattern from the side which enables seeing.
(The other layers patterns are not indicated.)

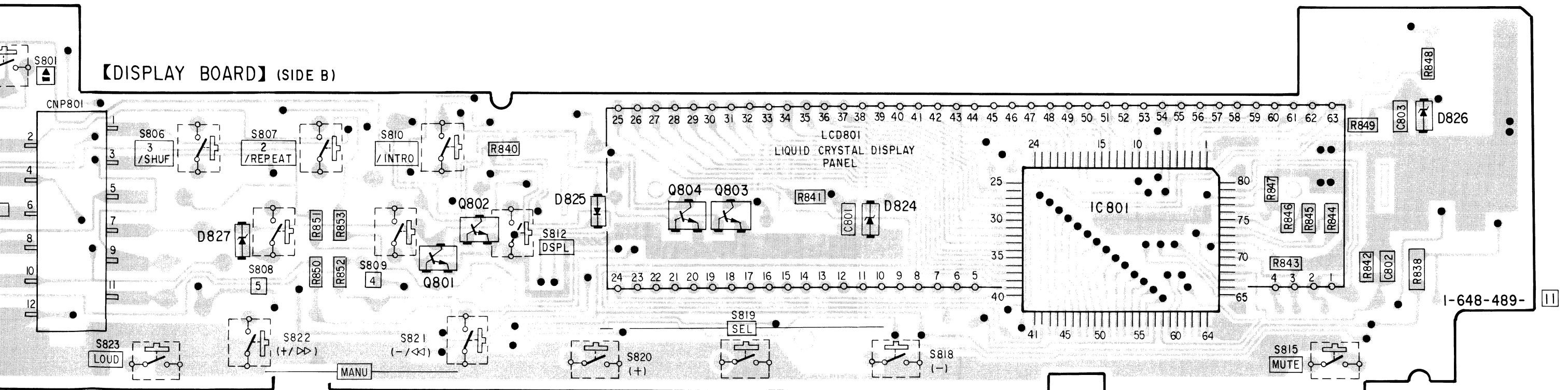


S804
AF/TA

【DISPLAY BOARD】 (SIDE A)



【DISPLAY BOARD】 (SIDE B)



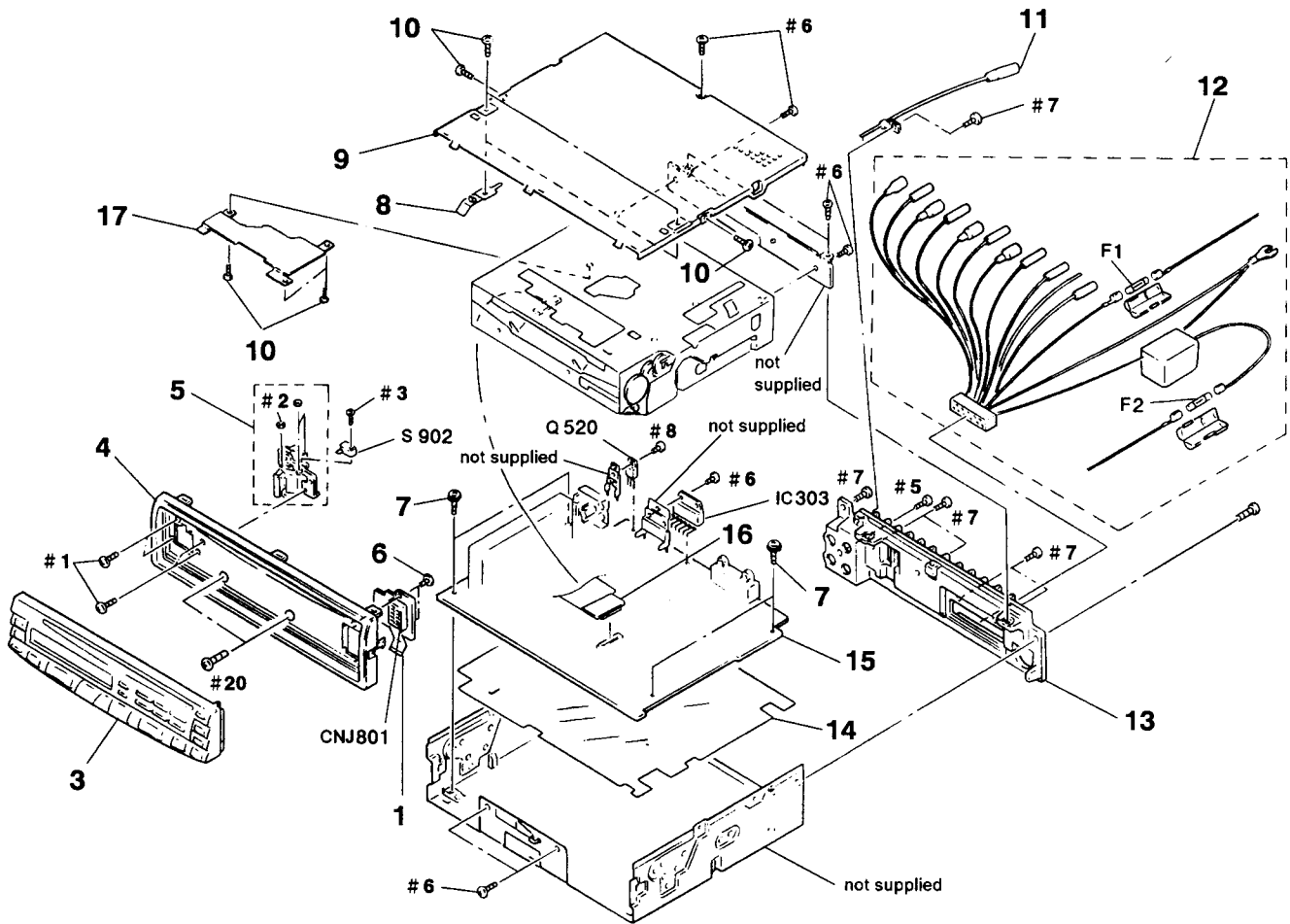
SECTION 6
EXPLODED VIEWS

NOTE:

- -XX,-X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

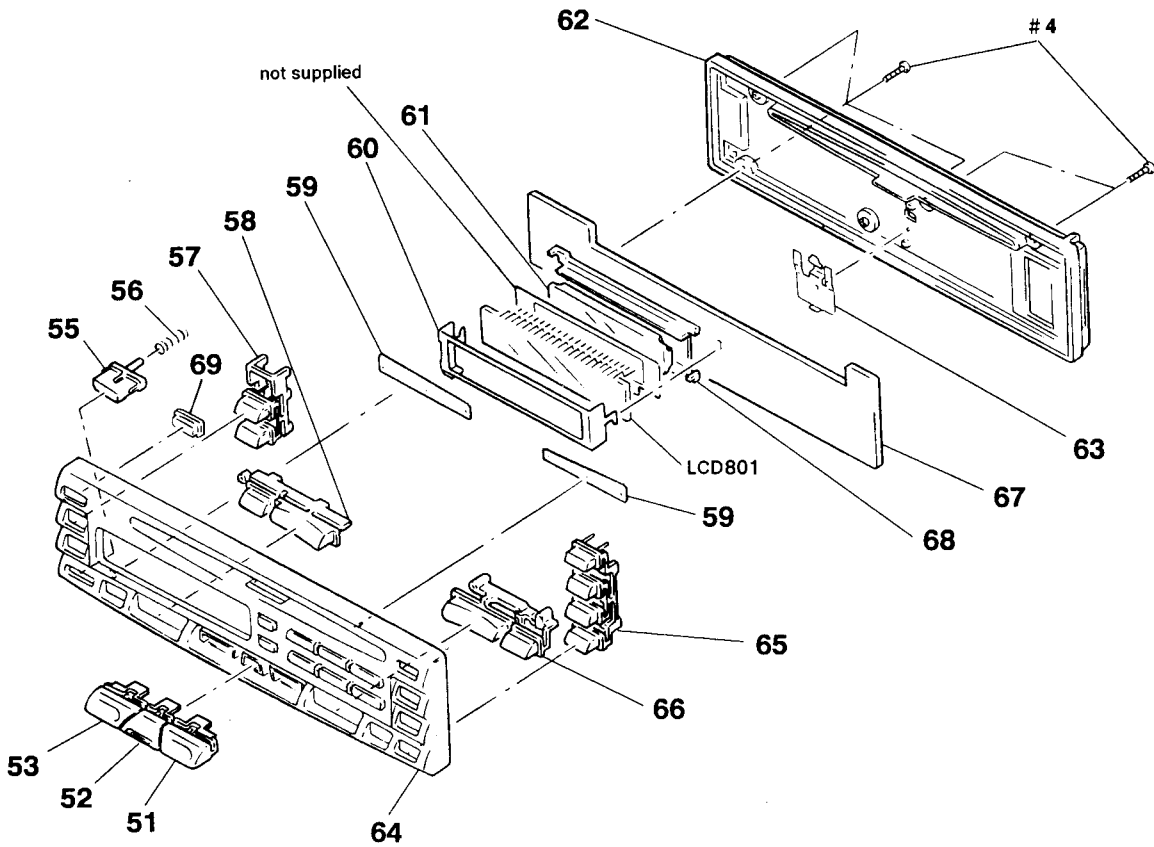
6-1. GENERAL SECTION-1



Ref.No.	Part No.	Description	Remark
1	1-646-953-11	FLEXIBLE BOARD	
3	A-3252-663-A	PANEL ASSY, FRONT	
4	X-3366-153-1	PANEL (SUB) ASSY	
5	X-3365-507-2	LOCK ASSY	
6	4-947-204-01	SCREW (M2X4)	
7	3-376-464-11	SCREW(+PTT 2. 6X6), GROUND POINT	
* 8	3-386-597-01	PLATE, LOCK	
* 9	3-386-195-01	COVER	
10	3-363-433-02	SCREW	
11	1-751-077-11	CORD (WITH CONNECTOR) (ANTENNA)	
12	1-751-036-11	CORD (WITH CONNECTOR AND FUSE) (POWER)	
* 13	3-386-194-11	HEAT SINK	

Ref.No.	Part No.	Description	Remark
* 14	3-386-189-01	SHEET, INSULATING	
* 15	A-3295-435-A	MAIN BOARD, COMPLETE (AEP, UK)	
* 15	A-3295-501-A	MAIN BOARD, COMPLETE (Germany)	
16	1-646-932-11	MD FLEXIBLE BOARD	
* 17	3-388-151-01	PLATE, SHIELD	
* CNJ801	1-691-558-21	SOCKET, CONNECTOR 12P	
F1	1-532-360-XX	FUSE, GLASS TUBE (1A)	
F2	1-532-678-XX	FUSE, GLASS TUBE (12A)	
IC303	8-759-159-98	IC HA13150	
Q520	8-729-019-00	TRANSISTOR 2SD2394-G	
S902	X-3366-172-1	SWITCH ASSY	

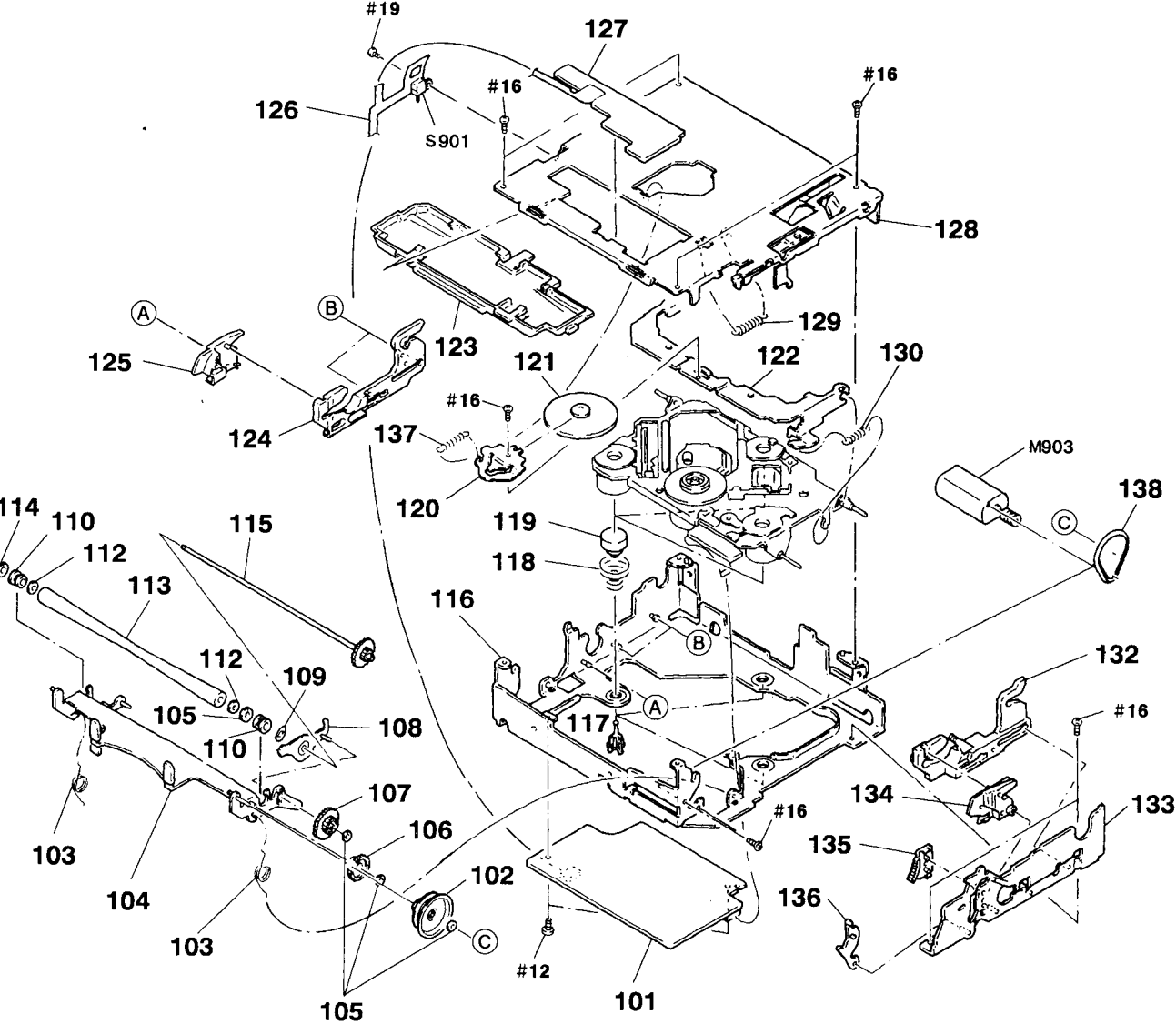
6-2. GENERAL SECTION-2



Ref.No.	Part No.	Description	Remark
51	3-384-648-01	BUTTON (+)	
52	3-384-650-01	BUTTON (SEL)	
53	3-384-649-01	BUTTON (-)	
55	3-386-177-01	BUTTON (RELEASE)	
56	3-375-373-01	SPRING (RELEASE)	
57	3-386-175-01	BUTTON (2 GANG A)	
58	3-384-647-11	BUTTON (SEEK)	
59	3-386-187-01	SHEET (DOOR F)	
* 60	3-386-203-01	PLATE (LCD), GROUND	
* 61	3-386-202-01	PLATE (LCD), LIGHT GUIDE	

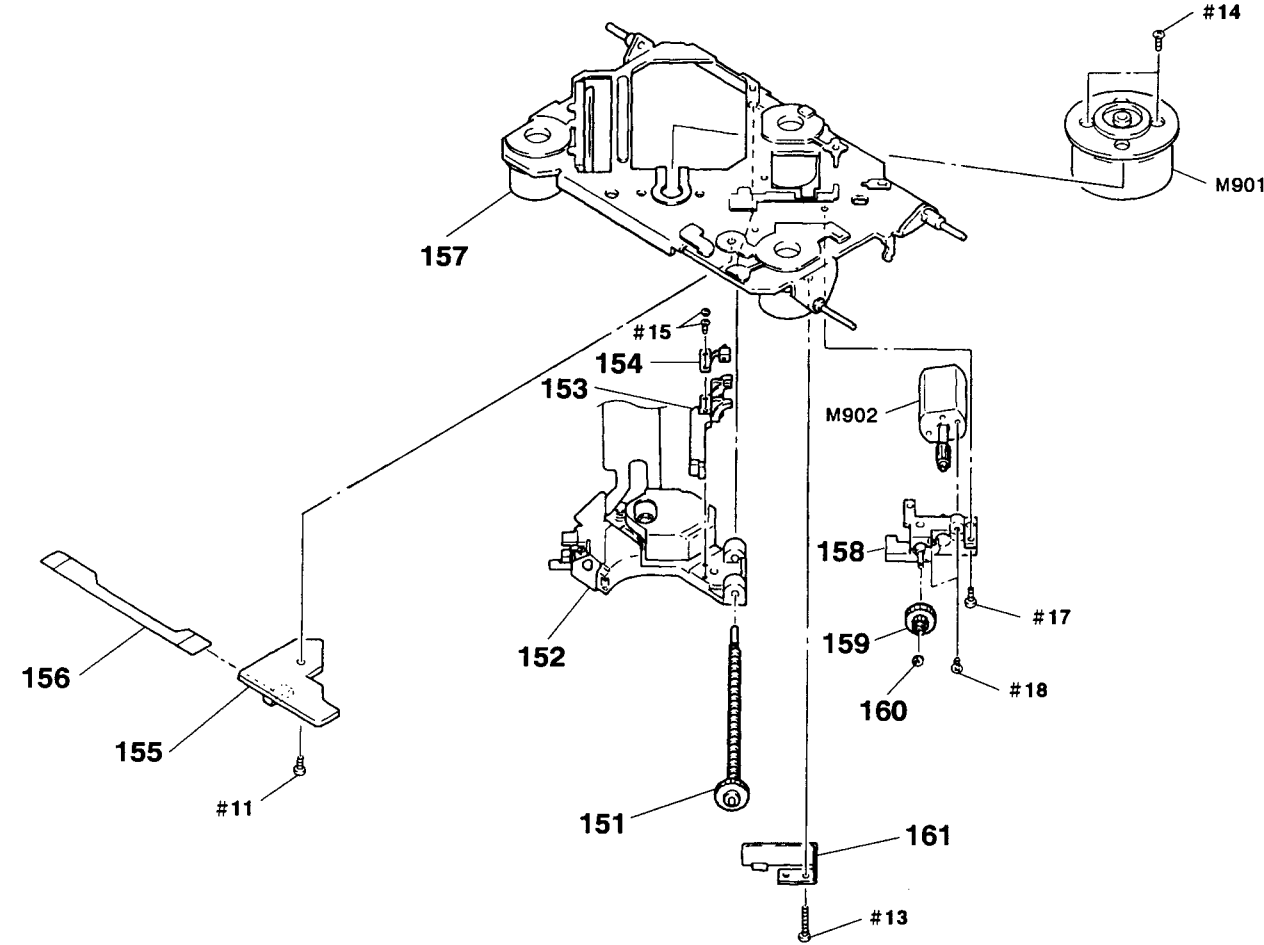
Ref.No.	Part No.	Description	Remark
62	3-386-198-01	PANEL, FRONT BACK	
* 63	3-386-184-01	PLATE (FBP), GROUND	
64	3-386-207-11	PANEL, FRONT	
65	3-386-205-11	BUTTON (R4)	
66	3-384-646-21	BUTTON (MANU)	
* 67	A-3295-323-A	DISPLAY BOARD, COMPLETE	
* 68	3-386-197-01	HOLDER (LCD)	
69	3-386-204-01	FILTER (RAY CATCHER)	
LCD801	1-810-010-11	DISPLAY PANEL, LIQUID CRYSTAL	

6-3. MD SECTION-1 (MG-205Z-130)



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
* 101	A-3222-526-A	MD BOARD, COMPLETE		* 121	3-384-918-01	RETAINER (DISC)	
102	3-384-894-01	GEAR (R1)		* 122	3-384-908-01	ARM, CHUCKING	
103	3-384-900-01	SPRING (PRESS)		* 123	3-384-886-01	GUIDE (DISK)	
* 104	X-3365-912-1	ARM ASSY, ROLLER		124	3-384-888-01	SLIDER (L)	
105	3-570-615-00	POLY-WASHER (DIA. 1. 2)		125	3-384-887-01	LEVER (L)	
106	3-384-895-01	GEAR (R2)		126	1-646-401-11	SENSOR FLEXIBLE BOARD	
107	3-384-896-01	GEAR (DOWN)		* 127	A-3222-525-A	SENSOR BOARD, COMPLETE	
108	X-3365-913-1	ARM ASSY, FRICTION		* 128	X-3365-914-1	CHASSIS (T) ASSY	
109	3-384-899-01	SPRING (FRICTION)		129	3-384-881-01	SPRING, TENSION	
110	3-384-892-01	BEARING (ROLLER)		130	3-384-917-01	SPRING (CH)	
112	3-701-438-11	WASHER, 2. 5		132	X-3366-102-1	SLIDER (R) ASSY	
113	3-377-484-01	ROLLER (T)		* 133	X-3365-911-1	CHASSIS (R) ASSY	
114	3-386-150-01	RING (ROLLER), RETAINING		134	3-384-889-01	LEVER (R)	
115	A-3252-591-A	GEAR ASSY, ROLLER		135	3-384-897-01	GEAR (RACK)	
116	X-3365-910-1	CHASSIS (M) ASSY		136	3-384-891-01	LEVER (ST)	
117	3-384-923-01	SHAFT (DAMPER)		137	3-578-388-00	SPRING, TENSION	
118	3-384-916-01	SPRING (FL)		138	3-387-776-01	BELT (L)	
119	3-384-914-01	DAMPER		M903	A-3252-580-A	MOTOR (L) ASSY	
* 120	3-384-915-01	BRACKET (CP)		S901	1-692-441-11	SWITCH, MICRO (DISC DET)	

6-4. MD SECTION-2 (MG-205Z-130)

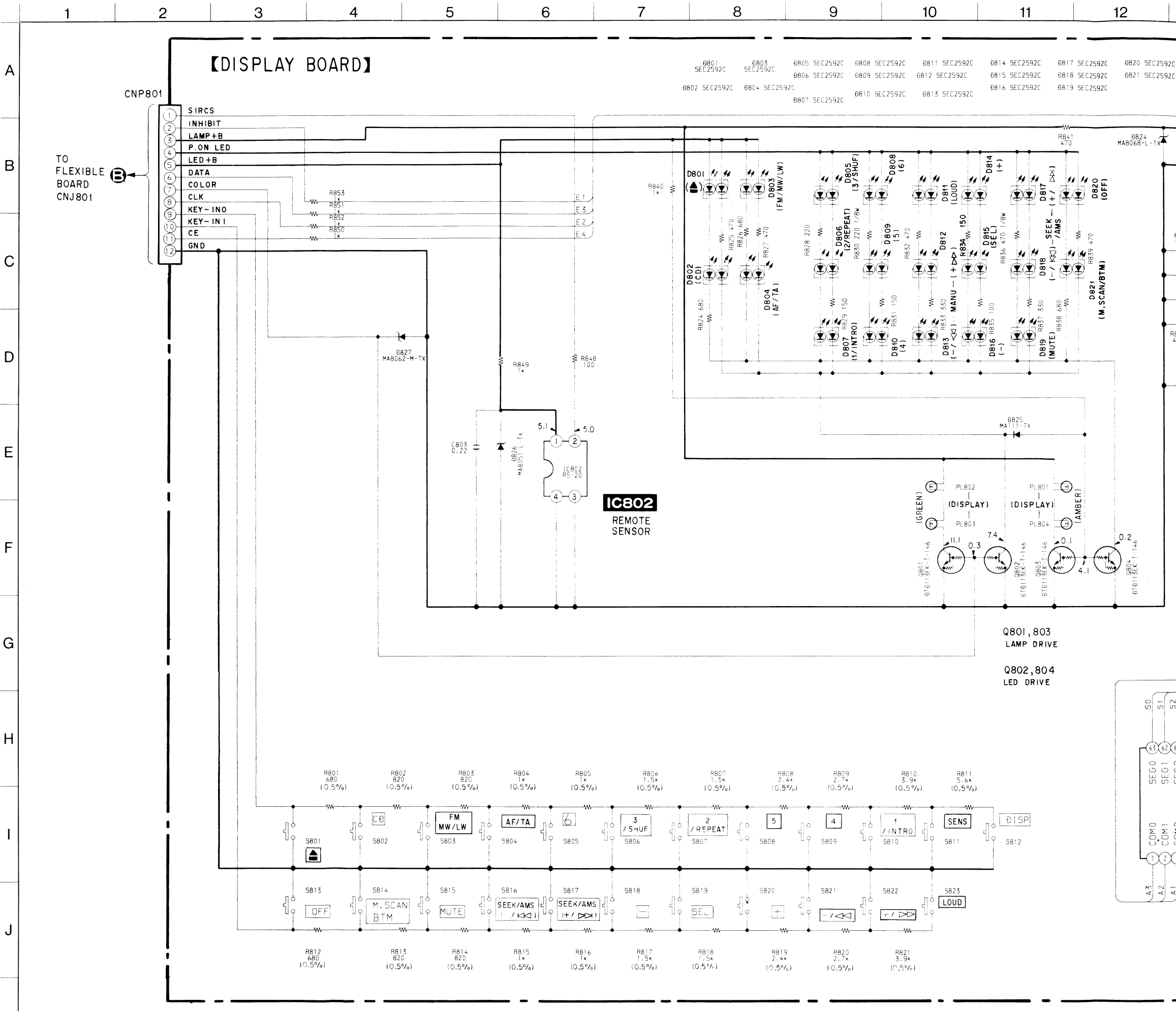


Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
151	A-3252-586-A	SHAFT (SL) ASSY		160	3-570-615-00	POLY-WASHER (DIA. 1. 2)	
△ 152	8-848-283-11	OPTICAL PICK-UP BLOCK KSS-313A		* 161	3-384-913-01	SPRING (THRUST RETAINER)	
153	3-384-922-01	GEAR (SL FEED)		M901	A-3252-628-A	MOTOR (SPINDLE) ASSY	
154	2-625-516-01	SPRING (A), FEED		M902	A-3252-585-A	MOTOR (SL) ASSY	
* 155	1-646-397-11	MOTOR BOARD					
156	1-646-402-11	MOTOR FLEXIBLE BOARD					
* 157	X-3365-916-1	CHASSIS (OPT) ASSY (OUTSERT)					
158	X-3366-100-1	BASE (DRIVING) ASSY					
159	3-384-912-01	GEAR (K2)					

Note: The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

5-10. SCHEMATIC DIAGRAMS – DISPLAY Section –

• See Page 42 for IC Block Diagrams – IC301, 302 –

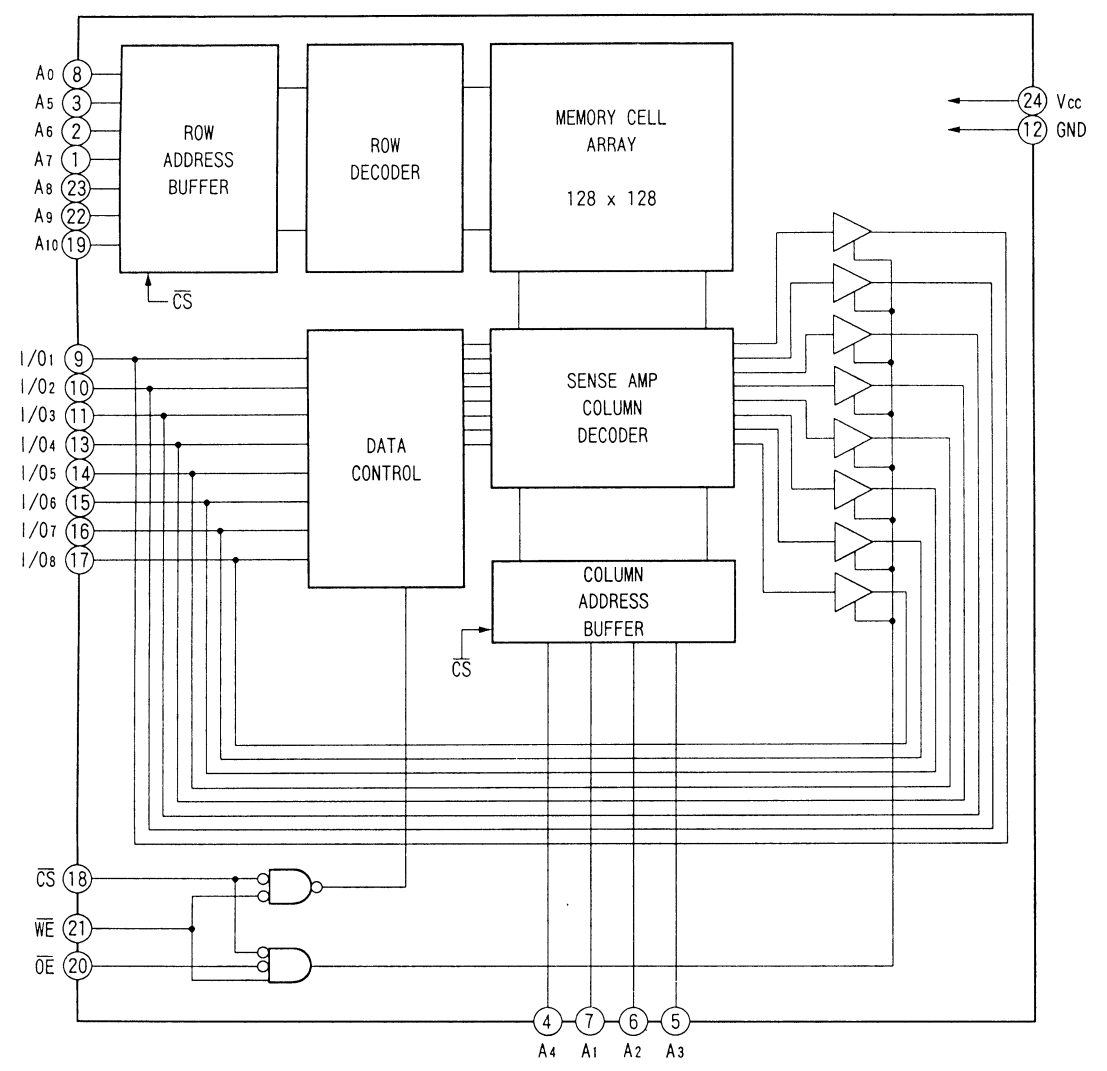


Note:

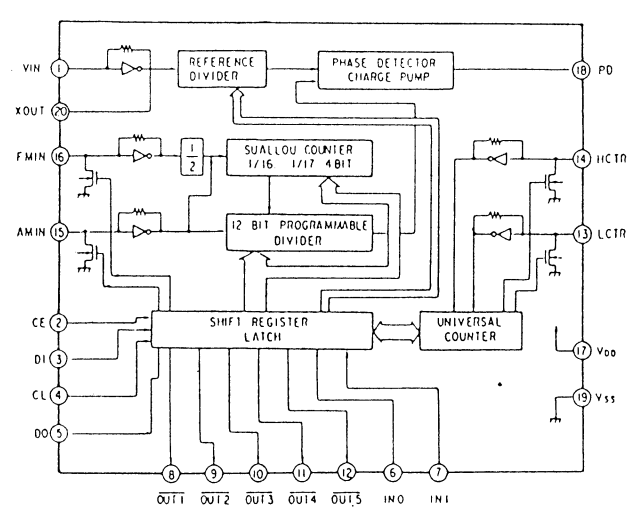
- All capacitors are in μF unless otherwise noted. pF : $\mu\mu F$ 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}W$ or less unless otherwise specified.
- — : B+ line.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
- Voltages are taken with a VOM. (Input impedance 10M Ω)
- Voltage variations may be noted due to normal production tolerances.

• IC BLOCK DIAGRAMS – MAIN Section –

IC602 LH5116NA

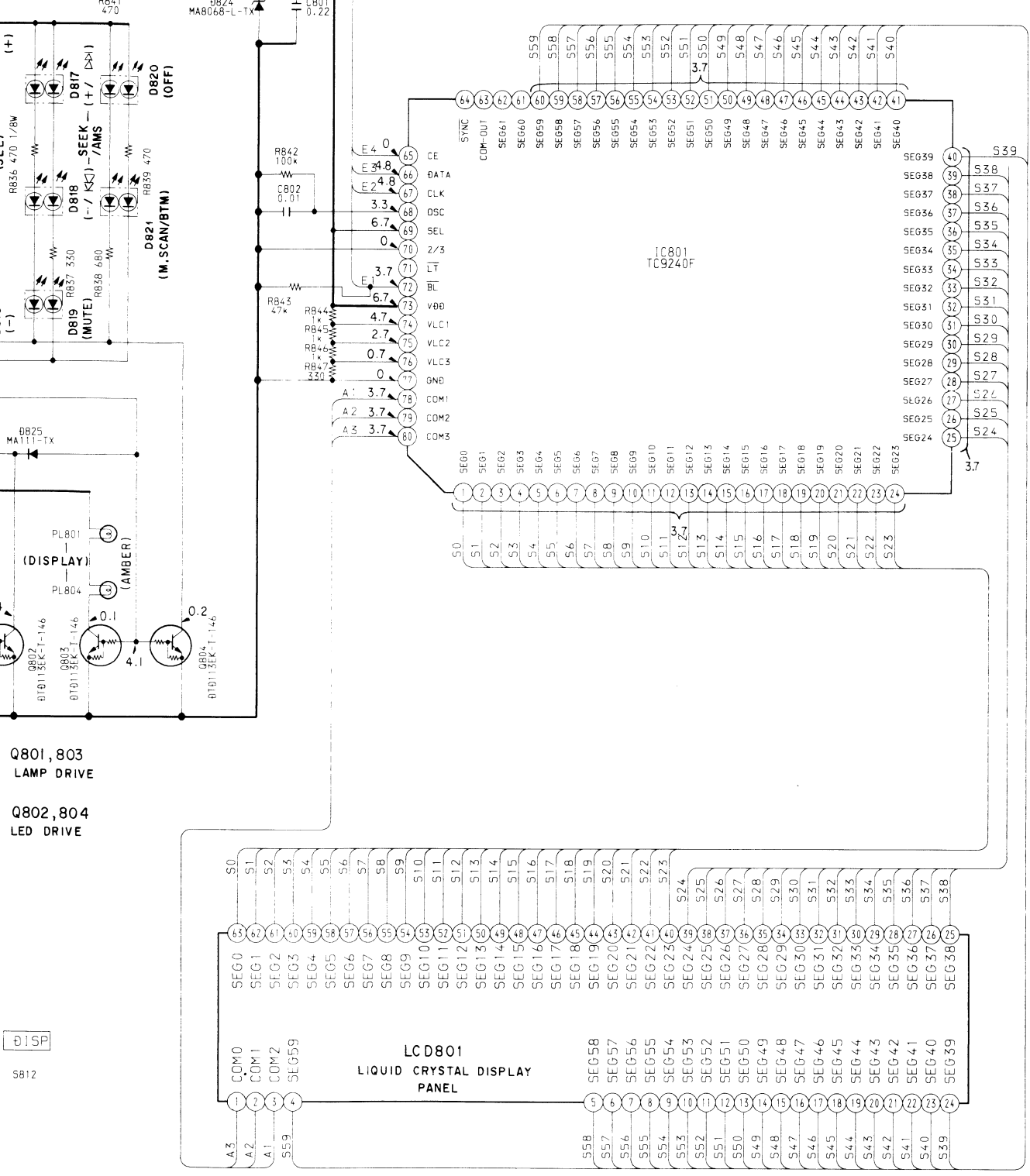


IC603 LC7216M



IC801

LCD DRIVE



LC801

LIQUID CRYSTAL DISPLAY PANEL

SECTION 7

ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the part specified in the diagrams or the components used on the set.
- -XX,-X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms
METAL : Metal-film resistor
METAL OXIDE : Metal Oxide-film resistor
F : nonflammable

- Items marked "※" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u : μ ,for example :
uA... : μ A..., uPA... : μ PA...,
uPB... : μ PB..., uPC... : μ PC...,
uPD... : μ PD...
- CAPACITORS
uF : μ F
- COILS
uH : μ H

When indicating parts by reference number, please include the board name.

The components identified by mark  or dotted line with mark  are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
*	A-3295-323-A	DISPLAY BOARD, COMPLETE *****		D820	8-719-033-82	LED SEC2592C (OFF)	
*	3-386-197-01	HOLDER (LCD)		D821	8-719-033-82	LED SEC2592C (M. SCAN/BTM)	
*	3-386-202-01	PLATE (LCD), LIGHT GUIDE		D824	8-719-017-62	DIODE MA8068-L	
		< CAPACITOR >		D825	8-719-404-49	DIODE MA111	
C801	1-164-222-11	CERAMIC CHIP 0.22uF	25V	D826	8-719-422-41	DIODE MA8051-L	
C802	1-164-232-11	CERAMIC CHIP 0.01uF	50V				
C803	1-164-222-11	CERAMIC CHIP 0.22uF	25V	D827	8-719-422-64	DIODE MA8062-M	
		< CONNECTOR >				< IC >	
* CNP801	1-691-557-21	PIN, CONNECTOR 12P		IC801	8-759-246-16	IC TC9240F	
		< DIODE >		IC802	8-759-515-60	IC RS-20	
D801	8-719-033-82	LED SEC2592C ()				< LIQUID CRYSTAL DISPLAY >	
D802	8-719-033-82	LED SEC2592C (CD)		LCD801	1-810-010-11	DISPLAY PANEL, LIQUID CRYSTAL	
D803	8-719-033-82	LED SEC2592C (FM/MW/LW)				< PILOT LAMP >	
D804	8-719-033-82	LED SEC2592C (AF/TF)		PL801	1-517-165-21	LAMP, PILOT (AMBER)	
D805	8-719-033-82	LED SEC2592C (3/SHUF)		PL802	1-517-166-21	LAMP, PILOT (GREEN)	
D806	8-719-033-82	LED SEC2592C (2/REPEAT)		PL803	1-517-166-21	LAMP, PILOT (GREEN)	
D807	8-719-033-82	LED SEC2592C (1/INTRO)		PL804	1-517-165-21	LAMP, PILOT (AMBER)	
D808	8-719-033-82	LED SEC2592C (6)				< TRANSISTOR >	
D809	8-719-033-82	LED SEC2592C (5)		Q801	8-729-904-66	TRANSISTOR DTD113EK	
D810	8-719-033-82	LED SEC2592C (4)		Q802	8-729-904-66	TRANSISTOR DTD113EK	
D811	8-719-033-82	LED SEC2592C (LOUD)		Q803	8-729-904-66	TRANSISTOR DTD113EK	
D812	8-719-033-82	LED SEC2592C (MANU(+/->>))		Q804	8-729-904-66	TRANSISTOR DTD113EK	
D813	8-719-033-82	LED SEC2592C (MANU(-/<<))				< RESISTOR >	
D814	8-719-033-82	LED SEC2592C (+)		R801	1-216-647-11	METAL CHIP 680 0.5% 1/10W	
D815	8-719-033-82	LED SEC2592C (SEL)		R802	1-216-649-11	METAL CHIP 820 0.5% 1/10W	
D816	8-719-033-82	LED SEC2592C (-)		R803	1-216-649-11	METAL CHIP 820 0.5% 1/10W	
D817	8-719-033-82	LED SEC2592C (SEEK/AMS(+/->>))		R804	1-216-651-11	METAL CHIP 1K 0.5% 1/10W	
D818	8-719-033-82	LED SEC2592C (SEEK/AMS(-/<<))		R805	1-216-651-11	METAL CHIP 1K 0.5% 1/10W	
D819	8-719-033-82	LED SEC2592C (MUTE)		R806	1-216-655-11	METAL CHIP 1.5K 0.5% 1/10W	

DISPLAY

FLEXIBLE

MAIN

Ref.No.	Part No.	Description	Remark
R807	1-216-655-11	METAL CHIP	1.5K 0.5% 1/10W
R808	1-216-660-11	METAL CHIP	2.4K 0.5% 1/10W
R809	1-216-661-11	METAL CHIP	2.7K 0.5% 1/10W
R810	1-216-665-11	METAL CHIP	3.9K 0.5% 1/10W
R811	1-216-669-11	METAL CHIP	5.6K 0.5% 1/10W
R812	1-216-647-11	METAL CHIP	680 0.5% 1/10W
R813	1-216-649-11	METAL CHIP	820 0.5% 1/10W
R814	1-216-649-11	METAL CHIP	820 0.5% 1/10W
R815	1-216-651-11	METAL CHIP	1K 0.5% 1/10W
R816	1-216-651-11	METAL CHIP	1K 0.5% 1/10W
R817	1-216-655-11	METAL CHIP	1.5K 0.5% 1/10W
R818	1-216-655-11	METAL CHIP	1.5K 0.5% 1/10W
R819	1-216-665-11	METAL CHIP	2.4K 0.5% 1/10W
R820	1-216-661-11	METAL CHIP	2.7K 0.5% 1/10W
R821	1-216-665-11	METAL CHIP	3.9K 0.5% 1/10W
R824	1-216-194-00	METAL CHIP	680 5% 1/8W
R825	1-216-190-00	METAL GLAZE	470 5% 1/8W
R826	1-216-194-00	METAL CHIP	680 5% 1/8W
R827	1-216-190-00	METAL GLAZE	470 5% 1/8W
R828	1-216-182-00	METAL GLAZE	220 5% 1/8W
R829	1-216-178-00	METAL GLAZE	150 5% 1/8W
R830	1-216-182-00	METAL GLAZE	220 5% 1/8W
R831	1-216-178-00	METAL GLAZE	150 5% 1/8W
R832	1-216-190-00	METAL GLAZE	470 5% 1/8W
R833	1-216-186-00	METAL GLAZE	330 5% 1/8W
R834	1-216-178-00	METAL GLAZE	150 5% 1/8W
R835	1-216-174-00	METAL GLAZE	100 5% 1/8W
R836	1-216-190-00	METAL GLAZE	470 5% 1/8W
R837	1-216-186-00	METAL GLAZE	330 5% 1/8W
R838	1-216-194-00	METAL CHIP	680 5% 1/8W
R839	1-216-190-00	METAL GLAZE	470 5% 1/8W
R840	1-216-049-00	METAL CHIP	1K 5% 1/10W
R841	1-216-041-00	METAL CHIP	470 5% 1/10W
R842	1-216-097-00	METAL CHIP	100K 5% 1/10W
R843	1-216-089-00	METAL CHIP	47K 5% 1/10W
R844	1-216-049-00	METAL CHIP	1K 5% 1/10W
R845	1-216-049-00	METAL CHIP	1K 5% 1/10W
R846	1-216-049-00	METAL CHIP	1K 5% 1/10W
R847	1-216-037-00	METAL CHIP	330 5% 1/10W
R848	1-216-025-00	METAL CHIP	100 5% 1/10W
R849	1-216-049-00	METAL CHIP	1K 5% 1/10W
R850	1-216-049-00	METAL CHIP	1K 5% 1/10W
R851	1-216-049-00	METAL CHIP	1K 5% 1/10W
R852	1-216-049-00	METAL CHIP	1K 5% 1/10W
R853	1-216-049-00	METAL CHIP	1K 5% 1/10W
< SWITCH >			
S801	1-572-704-21	SWITCH, KEY BOARD	(合)
S802	1-692-386-21	SWITCH, KEY BOARD	(CD)
S803	1-692-386-21	SWITCH, KEY BOARD	(FM/MW/LW)

Ref.No.	Part No.	Description	Remark
S804	1-692-386-21	SWITCH, KEY BOARD	(AF/TA)
S805	1-692-386-21	SWITCH, KEY BOARD	(6)
S806	1-572-704-21	SWITCH, KEY BOARD	(3/SHUF)
S807	1-572-704-21	SWITCH, KEY BOARD	(2/REPEAT)
S808	1-572-704-21	SWITCH, KEY BOARD	(5)
S809	1-572-704-21	SWITCH, KEY BOARD	(4)
S810	1-572-704-21	SWITCH, KEY BOARD	(1/INTRO)
S811	1-692-386-21	SWITCH, KEY BOARD	(SENS)
S812	1-572-704-21	SWITCH, KEY BOARD	(DPSL)
S813	1-692-386-21	SWITCH, KEY BOARD	(OFF)
S814	1-692-386-21	SWITCH, KEY BOARD	(M. SCAN)
S815	1-572-704-21	SWITCH, KEY BOARD	(MUTE)
S816	1-692-386-21	SWITCH, KEY BOARD	(SEEK/AMS(-/ <K>))
S817	1-692-386-21	SWITCH, KEY BOARD	(SEEK/AMS(+/- >K>))
S818	1-572-704-21	SWITCH, KEY BOARD	(-)
S819	1-572-704-21	SWITCH, KEY BOARD	(SEL)
S820	1-572-704-21	SWITCH, KEY BOARD	(+)
S821	1-572-704-21	SWITCH, KEY BOARD	(MANU(-/ <K>))
S822	1-572-704-21	SWITCH, KEY BOARD	(MANU(+/- >K>))
S823	1-572-704-21	SWITCH, KEY BOARD	(LOUD)

	1-646-953-11	FLEXIBLE BOARD	

< JACK >			
* CNJ801	1-691-558-21	SOCKET, CONNECTOR 12P	
< SWITCH >			
S801	1-544-371-51	SWITCH, TACT	(RESET)

*	A-3295-435-A	MAIN BOARD, COMPLETE	(AEP, UK)

*	A-3295-501-A	MAIN BOARD, COMPLETE	(Germany)

< BUZZER >			
BZ1	1-529-108-21	BUZZER, PIEZOELECTRIC	
< CAPACITOR >			
C1	1-124-360-00	ELECT	1000uF 20% 16V
C2	1-164-156-11	CERAMIC CHIP	0.1uF 25V
C101	1-163-115-00	CERAMIC CHIP	82PF 5% 50V
C102	1-162-927-11	CERAMIC CHIP	100PF 5% 50V
C103	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
C104	1-162-925-11	CERAMIC CHIP	68PF 5% 50V
C105	1-162-925-11	CERAMIC CHIP	68PF 5% 50V
C106	1-164-156-11	CERAMIC CHIP	0.1uF 25V
C107	1-164-156-11	CERAMIC CHIP	0.1uF 25V

Ref.No.	Part No.	Description	Remark			Ref.No.	Part No.	Description	Remark		
C108	1-136-161-00	FILM	0.047uF	5%	50V	C224	1-126-301-11	ELECT	1uF	20%	50V
C109	1-130-479-00	MYLAR	0.0047uF	5%	50V	C225	1-126-301-11	ELECT	1uF	20%	50V
C110	1-126-157-11	ELECT	10uF	20%	16V	C230	1-136-165-00	FILM	0.1uF	5%	50V
C111	1-130-481-00	MYLAR	0.0068uF	5%	50V	C231	1-136-165-00	FILM	0.1uF	5%	50V
C112	1-126-157-11	ELECT	10uF	20%	16V	C232	1-136-165-00	FILM	0.1uF	5%	50V
C113	1-136-169-00	FILM	0.22uF	5%	50V	C233	1-136-165-00	FILM	0.1uF	5%	50V
C114	1-126-301-11	ELECT	1uF	20%	50V	C234	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C115	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	C235	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C116	1-126-157-11	ELECT	10uF	20%	16V	C242	1-164-337-11	CERAMIC CHIP	2.2uF		16V
C117	1-126-157-11	ELECT	10uF	20%	16V	C243	1-164-337-11	CERAMIC CHIP	2.2uF		16V
C118	1-126-157-11	ELECT	10uF	20%	16V	C244	1-164-337-11	CERAMIC CHIP	2.2uF		16V
C119	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	C300	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C120	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	C301	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C121	1-126-154-11	ELECT	47uF	20%	6.3V	C303	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C122	1-136-161-00	FILM	0.047uF	5%	50V	C304	1-126-154-11	ELECT	47uF	20%	6.3V
C123	1-126-301-11	ELECT	1uF	20%	50V	C305	1-126-159-11	ELECT	0.47uF	20%	50V
C124	1-126-301-11	ELECT	1uF	20%	50V	C306	1-128-054-11	ELECT	22uF	20%	10V
C125	1-126-301-11	ELECT	1uF	20%	50V	C307	1-126-157-11	ELECT	10uF	20%	16V
C130	1-136-165-00	FILM	0.1uF	5%	50V	C308	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C131	1-136-165-00	FILM	0.1uF	5%	50V	C309	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C132	1-136-165-00	FILM	0.1uF	5%	50V	C310	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C133	1-136-165-00	FILM	0.1uF	5%	50V	C311	1-126-157-11	ELECT	10uF	20%	16V
C134	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C313	1-124-584-00	ELECT	100uF	20%	10V
C135	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	C502	1-124-343-00	ELECT	2200uF	20%	16V
C142	1-164-337-11	CERAMIC CHIP	2.2uF		16V	C506	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C143	1-164-337-11	CERAMIC CHIP	2.2uF		16V	C507	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C144	1-164-337-11	CERAMIC CHIP	2.2uF		16V	C508	1-124-584-00	ELECT	100uF	20%	10V
C201	1-163-115-00	CERAMIC CHIP	82PF	5%	50V	C509	1-126-157-11	ELECT	10uF	20%	16V
C202	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C510	1-126-176-11	ELECT	220uF	20%	6.3V
C203	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C511	1-125-701-11	CAP, DOUBLE LAYER	0.047F		
C204	1-162-925-11	CERAMIC CHIP	68PF	5%	50V	C512	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C205	1-162-925-11	CERAMIC CHIP	68PF	5%	50V	C515	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C206	1-164-156-11	CERAMIC CHIP	0.1uF		25V	C519	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C207	1-164-156-11	CERAMIC CHIP	0.1uF		25V	C520	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C208	1-136-161-00	FILM	0.047uF	5%	50V	C521	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C209	1-130-479-00	MYLAR	0.0047uF	5%	50V	C522	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C210	1-126-157-11	ELECT	10uF	20%	16V	C523	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C211	1-130-481-00	MYLAR	0.0068uF	5%	50V	C525	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C212	1-126-157-11	ELECT	10uF	20%	16V	C526	1-128-057-11	ELECT	330uF	20%	6.3V
C213	1-136-169-00	FILM	0.22uF	5%	50V	C527	1-128-057-11	ELECT	330uF	20%	6.3V
C214	1-126-301-11	ELECT	1uF	20%	50V	C528	1-126-157-11	ELECT	10uF	20%	16V
C215	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	C529	1-126-157-11	ELECT	10uF	20%	16V
C216	1-126-157-11	ELECT	10uF	20%	16V	C530	1-126-157-11	ELECT	10uF	20%	16V
C217	1-126-157-11	ELECT	10uF	20%	16V	C531	1-126-157-11	ELECT	10uF	20%	16V
C218	1-126-157-11	ELECT	10uF	20%	16V	C532	1-126-157-11	ELECT	10uF	20%	16V
C219	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	C536	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C220	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	C540	1-128-057-11	ELECT	330uF	20%	6.3V
C221	1-126-154-11	ELECT	47uF	20%	6.3V	C542	1-163-009-11	CERAMIC CHIP	1000PF	10%	50V
C222	1-136-161-00	FILM	0.047uF	5%	50V	C543	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C223	1-126-301-11	ELECT	1uF	20%	50V	C544	1-163-251-11	CERAMIC CHIP	100PF	5%	50V

MAIN

Ref. No.	Part No.	Description	Remark
C545	1-164-222-11	CERAMIC CHIP 0.22uF	25V
C601	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C602	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C604	1-163-097-00	CERAMIC CHIP 15PF	5% 50V
C605	1-163-097-00	CERAMIC CHIP 15PF	5% 50V
C606	1-162-927-11	CERAMIC CHIP 100PF	5% 50V
C607	1-162-927-11	CERAMIC CHIP 100PF	5% 50V
C608	1-162-927-11	CERAMIC CHIP 100PF	5% 50V
C609	1-162-927-11	CERAMIC CHIP 100PF	5% 50V
C610	1-162-587-11	CERAMIC CHIP 0.039uF	0.5PF 25V
C611	1-164-336-11	CERAMIC CHIP 0.33uF	25V (AEP, UK)
C611	1-164-222-11	CERAMIC CHIP 0.22uF	(Germany)
C612	1-136-175-00	FILM 0.068uF	5% 50V
C613	1-130-475-00	MYLAR 2200PF	5% 50V
C614	1-136-169-00	FILM 0.22uF	
C615	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C617	1-124-589-11	ELECT 47uF	20% 16V
C618	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C619	1-124-589-11	ELECT 47uF	20% 16V
C620	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C621	1-128-054-11	ELECT 22uF	20% 10V
C622	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C626	1-126-157-11	ELECT 10uF	20% 16V
C627	1-164-005-11	CERAMIC CHIP 0.47uF	25V
C628	1-162-967-11	CERAMIC CHIP 0.0033uF	10% 50V
C629	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
C630	1-163-003-11	CERAMIC CHIP 330PF	10% 50V
C631	1-124-257-00	ELECT 2.2uF	20% 50V
C632	1-164-363-11	CERAMIC CHIP 560PF	5% 50V
C633	1-163-229-11	CERAMIC CHIP 12PF	5% 50V
C634	1-163-229-11	CERAMIC CHIP 12PF	5% 50V
C636	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C643	1-164-232-11	CERAMIC CHIP 0.01uF	10% 50V
C644	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C645	1-164-343-11	CERAMIC CHIP 0.056uF	10% 25V
C646	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C647	1-164-346-11	CERAMIC CHIP 1uF	16V
C699	1-164-005-11	CERAMIC CHIP 0.47uF	25V

< JACK >

CNJ501 1-750-175-11 JACK, PIN 4P (LINE OUT)

< CONNECTOR >

- * CNP501 1-750-064-11 PLUG, CONNECTOR 15P
- * CNP502 1-750-512-21 CONNECTOR, FPC 13P
- * CNP504 1-695-953-31 CONNECTOR, BOARD TO BOARD 30P
- * CNP506 1-750-241-21 PIN, CONNECTOR (PC BOARD) 3P
- * CNP507 1-695-320-11 PIN, CONNECTOR (1.5MM) (SMD) 2P

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D1	8-719-921-54	DIODE MTZJ-6.2B	
D101	8-719-982-08	DIODE MTZJ-3.9B	
D120	8-719-313-73	DIODE SFPB-52V	(Germany)
D121	8-719-313-73	DIODE SFPB-52V	(Germany)
D122	8-719-313-73	DIODE SFPB-52V	(Germany)
D123	8-719-313-73	DIODE SFPB-52V	(Germany)
D201	8-719-982-08	DIODE MTZJ-3.9B	
D220	8-719-313-73	DIODE SFPB-52V	(Germany)
D221	8-719-313-73	DIODE SFPB-52V	(Germany)
D222	8-719-313-73	DIODE SFPB-52V	(Germany)
D223	8-719-313-73	DIODE SFPB-52V	(Germany)
D500	8-719-017-58	DIODE MA8068	
D501	8-719-921-82	DIODE MTZJ-12	
D504	8-719-800-76	DIODE 1SS226	
D505	8-719-921-54	DIODE MTZJ-6.2B	
D506	8-719-921-96	DIODE MTZJ-16B	
D507	8-719-921-54	DIODE MTZJ-6.2B	
D508	8-719-921-54	DIODE MTZJ-6.2B	
D509	8-719-104-34	DIODE 1S2836	
D510	8-719-921-98	DIODE MTZJ-18	
D511	8-719-026-82	DIODE MTZJ-6.8	
D512	8-719-921-47	DIODE MTZJ-5.6B	
D513	8-719-313-73	DIODE SFPB-52V	
D514	8-719-313-73	DIODE SFPB-52V	
D515	8-719-921-98	DIODE MTZJ-18	
D518	8-719-981-59	DIODE FC805	
D521	8-719-104-34	DIODE 1S2836	
D523	8-719-921-47	DIODE MTZJ-5.6B	
D524	8-719-026-82	DIODE MTZJ-6.8	
D526	8-719-026-82	DIODE MTZJ-6.8	
D529	8-719-026-82	DIODE MTZJ-6.8	
D531	8-719-921-82	DIODE MTZJ-12	
D532	8-719-026-82	DIODE MTZJ-6.8	
D533	8-719-026-82	DIODE MTZJ-6.8	
D534	8-719-026-82	DIODE MTZJ-6.8	
D604	8-719-404-49	DIODE MA111	
D605	8-719-977-03	DIODE DTZ5.6B	
D699	8-719-981-59	DIODE FC805	

< FRONT END >

FE601 A-7048-623-A TUNER (TUX001)

< IC >

- IC301 8-759-093-98 IC CXD8451M
- IC302 8-752-063-44 IC CXA1646Q
- IC303 8-759-159-98 IC HA13150
- IC304 8-759-700-43 IC NJM4558M
- IC305 8-759-700-43 IC NJM4558M

Ref.No.	Part No.	Description	Remark
IC306	8-759-700-43	IC NJM4558M	
IC307	8-759-924-46	IC BA4560F	
IC308	8-759-700-43	IC NJM4558M	
IC309	8-759-700-43	IC NJM4558M	
IC310	8-759-700-43	IC NJM4558M	
IC501	8-759-166-75	IC uPD75518GF-088-3B9	
IC502	8-759-940-45	IC S-8054HN-CB	
IC503	8-759-160-98	IC BA3910	
IC601	8-759-169-16	IC MN18P83217-FAP	
IC602	8-759-168-53	IC LH5116N3	
IC603	8-759-823-81	IC LC7216M	
IC604	8-759-065-98	IC SAA6579T	
IC605	8-759-038-46	IC SC7S00F	
IC607	8-759-234-77	IC TC4S66F	

< JUMPER RESISTOR >

JR1	1-216-864-11	METAL CHIP	0	5%	1/16W
JR501	1-216-296-00	METAL CHIP	0	5%	1/8W
JR502	1-216-296-00	METAL CHIP	0	5%	1/8W
JR503	1-216-296-00	METAL CHIP	0	5%	1/8W
JR506	1-216-296-00	METAL CHIP	0	5%	1/8W
JR508	1-216-296-00	METAL CHIP	0	5%	1/8W
JR509	1-216-296-00	METAL CHIP	0	5%	1/8W
JR601	1-216-864-11	METAL CHIP	0	5%	1/16W
JR602	1-216-864-11	METAL CHIP	0	5%	1/16W
JR603	1-216-296-00	METAL CHIP	0	5%	1/8W
JR604	1-216-296-00	METAL CHIP	0	5%	1/8W

< JUMPER RESISTOR >

JW501	1-216-295-00	METAL CHIP	0	5%	1/10W
JW502	1-216-295-00	METAL CHIP	0	5%	1/10W
JW503	1-216-295-00	METAL CHIP	0	5%	1/10W
JW504	1-216-295-00	METAL CHIP	0	5%	1/10W
JW604	1-216-295-00	METAL CHIP	0	5%	1/10W
JW605	1-216-295-00	METAL CHIP	0	5%	1/10W

< COIL >

L301	1-410-973-11	INDUCTOR	22uH
L303	1-410-973-11	INDUCTOR	22uH
L501	1-410-973-11	INDUCTOR	22uH
L601	1-410-973-11	INDUCTOR	22uH
L602	1-410-973-11	INDUCTOR	22uH
L604	1-410-973-11	INDUCTOR	22uH
L605	1-410-973-11	INDUCTOR	22uH

Ref.No.	Part No.	Description	Remark
< TRANSISTOR >			
Q1	8-729-920-85	TRANSISTOR	2SD1664-QR
Q101	8-729-920-21	TRANSISTOR	DTC314TKH04
Q102	8-729-920-21	TRANSISTOR	DTC314TKH04
Q103	8-729-920-21	TRANSISTOR	DTC314TKH04
Q201	8-729-920-21	TRANSISTOR	DTC314TKH04
Q202	8-729-920-21	TRANSISTOR	DTC314TKH04
Q203	8-729-920-21	TRANSISTOR	DTC314TKH04
Q301	8-729-020-67	TRANSISTOR	XN1A312-TX
Q501	8-729-429-92	TRANSISTOR	XN1211
Q502	8-729-020-67	TRANSISTOR	XN1A312-TX
Q504	8-729-422-27	TRANSISTOR	2SD601A-Q
Q507	8-729-429-92	TRANSISTOR	XN1211
Q508	8-729-209-15	TRANSISTOR	2SD2012
Q511	8-729-106-60	TRANSISTOR	2SB1115A
Q513	8-729-424-59	TRANSISTOR	UN2212
Q514	8-729-020-67	TRANSISTOR	XN1A312-TX
Q515	8-729-020-67	TRANSISTOR	XN1A312-TX
Q517	8-729-424-59	TRANSISTOR	UN2212
Q519	8-729-424-59	TRANSISTOR	UN2212
Q520	8-729-019-00	TRANSISTOR	2SD2394-G
Q521	8-729-422-87	TRANSISTOR	2SB1073-R
Q522	8-729-422-27	TRANSISTOR	2SD601A-Q
Q523	8-729-424-59	TRANSISTOR	UN2212
Q526	8-729-402-13	TRANSISTOR	XN1501
Q601	8-729-809-71	TRANSISTOR	2SK536
Q602	8-729-422-27	TRANSISTOR	2SD601A-Q
Q604	8-729-020-67	TRANSISTOR	XN1A312-TX
Q605	8-729-424-59	TRANSISTOR	UN2212
Q606	8-729-020-67	TRANSISTOR	XN1A312-TX

< RESISTOR >

R1	1-216-833-11	METAL CHIP	10K	5%	1/16W
R101	1-216-081-00	METAL CHIP	22K	5%	1/10W
R102	1-216-081-00	METAL CHIP	22K	5%	1/10W
R103	1-216-081-00	METAL CHIP	22K	5%	1/10W
R104	1-216-081-00	METAL CHIP	22K	5%	1/10W
R105	1-216-085-00	METAL CHIP	33K	5%	1/10W
R106	1-216-085-00	METAL CHIP	33K	5%	1/10W
R107	1-216-843-11	METAL CHIP	68K	5%	1/16W
R108	1-216-843-11	METAL CHIP	68K	5%	1/16W
R109	1-216-089-00	METAL CHIP	47K	5%	1/10W
R110	1-216-073-00	METAL CHIP	10K	5%	1/10W
R111	1-216-068-00	METAL CHIP	6.2K	5%	1/10W
R112	1-216-837-11	METAL CHIP	22K	5%	1/16W
R113	1-216-833-11	METAL CHIP	10K	5%	1/16W
R114	1-216-838-11	METAL CHIP	27K	5%	1/16W
R115	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R116	1-216-057-00	METAL CHIP	2.2K	5%	1/10W

MAIN

Ref.No.	Part No.	Description	Remark			Ref.No.	Part No.	Description	Remark		
R117	1-216-073-00	METAL CHIP	10K	5%	1/10W	R235	1-216-073-00	METAL CHIP	10K	5%	1/10W
R118	1-216-073-00	METAL CHIP	10K	5%	1/10W	R236	1-216-089-00	METAL CHIP	47K	5%	1/10W
R124	1-216-134-00	METAL CHIP	2.2	5%	1/8W	R237	1-216-089-00	METAL CHIP	47K	5%	1/10W
R125	1-216-134-00	METAL CHIP	2.2	5%	1/8W	R302	1-216-001-00	METAL CHIP	10	5%	1/10W
R126	1-216-134-00	METAL CHIP	2.2	5%	1/8W	R303	1-216-001-00	METAL CHIP	10	5%	1/10W
R127	1-216-134-00	METAL CHIP	2.2	5%	1/8W	R304	1-216-001-00	METAL CHIP	10	5%	1/10W
R128	1-216-833-11	METAL CHIP	10K	5%	1/16W	R305	1-216-815-11	METAL CHIP	330	5%	1/16W
R129	1-216-833-11	METAL CHIP	10K	5%	1/16W	R310	1-216-025-00	METAL CHIP	100	5%	1/10W
R130	1-216-833-11	METAL CHIP	10K	5%	1/16W	R311	1-216-025-00	METAL CHIP	100	5%	1/10W
R131	1-216-833-11	METAL CHIP	10K	5%	1/16W	R312	1-216-025-00	METAL CHIP	100	5%	1/10W
R132	1-218-344-11	METAL CHIP	7.5K	5%	1/16W	R501	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R133	1-218-344-11	METAL CHIP	7.5K	5%	1/16W	R502	1-216-841-11	METAL CHIP	47K	5%	1/16W
R134	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	R505	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
					(AEP, UK)	R506	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R134	1-216-835-11	METAL CHIP	15K	5%	1/16W	R507	1-216-847-11	METAL CHIP	150K	5%	1/16W
					(Germany)	R509	1-216-049-00	METAL CHIP	1K	5%	1/10W
R135	1-216-073-00	METAL CHIP	10K	5%	1/10W	R510	1-216-089-00	METAL CHIP	47K	5%	1/10W
R136	1-216-089-00	METAL CHIP	47K	5%	1/10W	R511	1-216-841-11	METAL CHIP	47K	5%	1/16W
R137	1-216-089-00	METAL CHIP	47K	5%	1/10W	R512	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R201	1-216-081-00	METAL CHIP	22K	5%	1/10W	R513	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R202	1-216-081-00	METAL CHIP	22K	5%	1/10W	R514	1-216-035-00	METAL CHIP	270	5%	1/10W
R203	1-216-081-00	METAL CHIP	22K	5%	1/10W	R516	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R204	1-216-081-00	METAL CHIP	22K	5%	1/10W	R517	1-216-845-11	METAL CHIP	100K	5%	1/16W
R205	1-216-085-00	METAL CHIP	33K	5%	1/10W	R518	1-216-073-00	METAL CHIP	10K	5%	1/10W
R206	1-216-085-00	METAL CHIP	33K	5%	1/10W	R519	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R207	1-216-843-11	METAL CHIP	68K	5%	1/16W	R520	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R208	1-216-843-11	METAL CHIP	68K	5%	1/16W	R521	1-216-073-00	METAL CHIP	10K	5%	1/10W
R209	1-216-089-00	METAL CHIP	47K	5%	1/10W	R522	1-216-097-00	METAL CHIP	100K	5%	1/10W
R210	1-216-073-00	METAL CHIP	10K	5%	1/10W	R523	1-216-849-11	METAL CHIP	220K	5%	1/16W
R211	1-216-068-00	METAL CHIP	6.2K	5%	1/10W	R524	1-216-049-00	METAL CHIP	1K	5%	1/10W
R212	1-216-081-00	METAL CHIP	22K	5%	1/10W	R525	1-216-049-00	METAL CHIP	1K	5%	1/10W
R213	1-216-833-11	METAL CHIP	10K	5%	1/16W	R526	1-216-025-00	METAL CHIP	100	5%	1/10W
R214	1-216-838-11	METAL CHIP	27K	5%	1/16W	R527	1-216-025-00	METAL CHIP	100	5%	1/10W
R215	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R528	1-216-025-00	METAL CHIP	100	5%	1/10W
R216	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R529	1-216-025-00	METAL CHIP	100	5%	1/10W
R217	1-216-073-00	METAL CHIP	10K	5%	1/10W	R530	1-216-073-00	METAL CHIP	10K	5%	1/10W
R218	1-216-073-00	METAL CHIP	10K	5%	1/10W	R531	1-216-073-00	METAL CHIP	10K	5%	1/10W
R224	1-216-134-00	METAL CHIP	2.2	5%	1/8W	R533	1-216-097-11	METAL CHIP	100K	5%	1/10W
R225	1-216-134-00	METAL CHIP	2.2	5%	1/8W	R534	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R226	1-216-134-00	METAL CHIP	2.2	5%	1/8W	R535	1-216-089-00	METAL CHIP	47K	5%	1/10W
R227	1-216-134-00	METAL CHIP	2.2	5%	1/8W	R536	1-216-073-00	METAL CHIP	10K	5%	1/10W
R228	1-216-833-11	METAL CHIP	10K	5%	1/16W	R543	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R229	1-216-833-11	METAL CHIP	10K	5%	1/16W	R545	1-216-073-00	METAL CHIP	10K	5%	1/10W
R230	1-216-833-11	METAL CHIP	10K	5%	1/16W	R546	1-216-049-00	METAL CHIP	1K	5%	1/10W
R231	1-216-833-11	METAL CHIP	10K	5%	1/16W	R547	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R232	1-218-344-11	METAL CHIP	7.5K	5%	1/16W	R548	1-216-073-00	METAL CHIP	10K	5%	1/10W
R233	1-218-344-11	METAL CHIP	7.5K	5%	1/16W	R549	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R234	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	R551	1-216-097-00	METAL CHIP	100K	5%	1/10W
					(AEP, UK)	R552	1-216-097-00	METAL CHIP	100K	5%	1/10W
R234	1-216-835-11	METAL CHIP	15K	5%	1/16W	R553	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
					(Germany)						

Ref.No.	Part No.	Description	Remark		
R554	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R556	1-216-073-00	METAL CHIP	10K	5%	1/10W
R557	1-216-097-00	METAL CHIP	100K	5%	1/10W
R558	1-216-821-11	METAL CHIP	1K	5%	1/16W
R560	1-216-049-00	METAL CHIP	1K	5%	1/10W
R561	1-216-049-00	METAL CHIP	1K	5%	1/10W
R562	1-216-049-00	METAL CHIP	1K	5%	1/10W
R567	1-216-049-00	METAL CHIP	1K	5%	1/10W
R568	1-216-837-11	METAL CHIP	22K	5%	1/16W
R569	1-216-837-11	METAL CHIP	22K	5%	1/16W
R570	1-216-073-00	METAL CHIP	10K	5%	1/10W
R571	1-216-821-11	METAL CHIP	1K	5%	1/16W
R572	1-216-849-11	METAL CHIP	220K	5%	1/16W
R573	1-216-849-11	METAL CHIP	220K	5%	1/16W
R575	1-216-849-11	METAL CHIP	220K	5%	1/16W
R576	1-216-849-11	METAL CHIP	220K	5%	1/16W
R577	1-216-841-11	METAL CHIP	47K	5%	1/16W
R578	1-216-835-11	METAL CHIP	15K	5%	1/16W
R582	1-216-105-00	METAL CHIP	220K	5%	1/10W
R583	1-216-849-11	METAL CHIP	220K	5%	1/16W
R587	1-216-851-11	METAL CHIP	330K	5%	1/16W
R589	1-216-841-11	METAL CHIP	47K	5%	1/16W
R590	1-216-841-11	METAL CHIP	47K	5%	1/16W
R591	1-216-841-11	METAL CHIP	47K	5%	1/16W
R592	1-216-821-11	METAL CHIP	1K	5%	1/16W
R596	1-216-835-11	METAL CHIP	15K	5%	1/16W
R601	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R602	1-216-833-11	METAL CHIP	10K	5%	1/16W
R603	1-216-821-11	METAL CHIP	1K	5%	1/16W
R604	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R605	1-216-833-11	METAL CHIP	10K	5%	1/16W
R606	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R607	1-216-821-11	METAL CHIP	1K	5%	1/16W
R608	1-216-043-00	METAL CHIP	560	5%	1/10W (AEP, UK)
R608	1-216-053-00	METAL CHIP	1.5K	5%	1/10W (Germany)
R619	1-216-089-00	METAL CHIP	47K	5%	1/10W
R621	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R622	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R623	1-216-105-00	METAL CHIP	220K	5%	1/10W
R624	1-216-073-00	METAL CHIP	10K	5%	1/10W
R625	1-216-849-11	METAL CHIP	220K	5%	1/16W
R626	1-216-097-00	METAL CHIP	100K	5%	1/10W
R627	1-216-849-11	METAL CHIP	220K	5%	1/16W
R628	1-216-295-00	METAL CHIP	0	5%	1/10W
R630	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R631	1-216-821-11	METAL CHIP	1K	5%	1/16W
R632	1-216-025-00	METAL CHIP	100	5%	1/10W
R633	1-216-845-11	METAL CHIP	100K	5%	1/16W

Ref.No.	Part No.	Description	Remark		
R636	1-216-097-00	METAL CHIP	100K	5%	1/10W
R637	1-216-097-00	METAL CHIP	100K	5%	1/10W
R638	1-216-097-00	METAL CHIP	100K	5%	1/10W
R639	1-216-097-00	METAL CHIP	100K	5%	1/10W
R640	1-216-097-00	METAL CHIP	100K	5%	1/10W
R641	1-216-097-00	METAL CHIP	100K	5%	1/10W
R642	1-216-097-00	METAL CHIP	100K	5%	1/10W
R643	1-216-097-00	METAL CHIP	100K	5%	1/10W
R645	1-216-809-11	METAL CHIP	100	5%	1/16W
R699	1-216-821-11	METAL CHIP	1K	5%	1/16W
< VARIABLE RESISTOR >					
RV601	1-238-716-11	RES, ADJ, METAL GLAZE	100K		
< SWITCH >					
SW501	1-572-272-11	SWITCH, SLIDE			
< THERMISTOR >					
TH501	1-806-715-11	THERMISTOR			
TH502	1-806-715-11	THERMISTOR			
< VIBRATOR >					
X301	1-579-915-21	OSCILLATOR, CERAMIC	(16.9344MHz)		
X502	1-579-886-21	VIBRATOR, CRYSTAL	(32kHz)		
X503	1-567-776-21	VIBRATOR, CERAMIC	(6MHz)		
X601	1-567-848-11	VIBRATOR, CRYSTAL	(7.2MHz)		
X602	1-579-918-21	OSCILLATOR, CERAMIC	(8MHz)		
X603	1-579-242-11	VIBRATOR, CRYSTAL	(4.3MHz)		

*	A-3222-526-A	MD BOARD, COMPLETE			

< CAPACITOR >					
C1	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C2	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C3	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C4	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C5	1-135-166-21	TANTALUM CHIP	47uF	10%	10V
C6	1-135-166-21	TANTALUM CHIP	47uF	10%	10V
C7	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C8	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C9	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C10	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C11	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C12	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C13	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C14	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C15	1-126-191-11	ELECT CHIP	0.47uF	20%	50V

MD**MOTOR**

Ref.No.	Part No.	Description	Remark
C16	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C17	1-164-492-11	CERAMIC CHIP 0.15uF	10% 16V
C18	1-126-206-11	ELECT CHIP 100uF	20% 6.3V
C19	1-124-473-11	ELECT 1000uF	20% 10V
C20	1-164-492-11	CERAMIC CHIP 0.15uF	10% 16V
C21	1-164-346-11	CERAMIC CHIP 1uF	16V
C22	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C23	1-164-346-11	CERAMIC CHIP 1uF	16V
C24	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C25	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C26	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C27	1-135-166-21	TANTALUM CHIP 47uF	10% 10V
C28	1-163-809-11	CERAMIC CHIP 0.047uF	10% 25V
C30	1-164-492-11	CERAMIC CHIP 0.15uF	10% 16V
C31	1-164-492-11	CERAMIC CHIP 0.15uF	10% 16V
C32	1-164-492-11	CERAMIC CHIP 0.15uF	10% 16V
C34	1-163-809-11	CERAMIC CHIP 0.047uF	10% 25V
< JACK >			
CNJ1	1-565-728-11	CONNECTOR, FPC 17P	
* CNJ2	1-750-159-21	CONNECTOR, FPC 5P	
* CNJ3	1-750-160-21	CONNECTOR, FPC 7P	
* CNJ4	1-750-161-21	CONNECTOR, FPC 30P	
< CONNECTOR >			
* CNP1	1-580-055-21	PIN, CONNECTOR 2P	
< IC >			
IC1	8-752-059-30	IC CXA1610M	
IC2	8-752-351-94	IC CXD2515Q	
IC3	8-759-823-87	IC LB1638M	
IC4	8-759-925-72	IC SN74HC02ANS	
IC5	8-759-087-55	IC MPC1732MR2	
IC6	8-759-087-53	IC MPC1730MR2	
< JUMPER RESISTOR >			
JR1	1-216-295-00	METAL CHIP 0 5% 1/10W	
< COIL >			
L1	1-412-058-11	INDUCTOR CHIP 10uH	
L2	1-412-058-11	INDUCTOR CHIP 10uH	
L3	1-412-058-11	INDUCTOR CHIP 10uH	
< TRANSISTOR >			
Q1	8-729-018-00	PHOTO TRANSISTOR ST-308	
Q2	8-729-018-00	PHOTO TRANSISTOR ST-308	
Q4	8-729-018-00	PHOTO TRANSISTOR ST-308	
Q5	8-729-141-48	TRANSISTOR 2SB624-BV345	

Ref.No.	Part No.	Description	Remark
< RESISTOR >			
R1	1-216-024-00	METAL GLAZE 91 5% 1/10W	
R2	1-216-001-00	METAL CHIP 10 5% 1/10W	
R4	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R5	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R6	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R7	1-216-099-00	METAL CHIP 120K 5% 1/10W	
R8	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R9	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R10	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R11	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R12	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R13	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R14	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R15	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R16	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R17	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R18	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R19	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R20	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R21	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R22	1-216-033-00	METAL CHIP 220 5% 1/10W	
R23	1-216-033-00	METAL CHIP 220 5% 1/10W	
R24	1-216-033-00	METAL CHIP 220 5% 1/10W	
R25	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R32	1-216-073-00	METAL CHIP 10K 5% 1/10W	
< VARIABLE RESISTOR >			
RV1	1-238-091-11	RES, ADJ, CERMET 22K	
RV2	1-238-091-11	RES, ADJ, CERMET 22K	
< SWITCH >			
SW1	1-571-754-31	SWITCH, PUSH (1 KEY)	

*	1-646-397-11	MOTOR BOARD	

	1-646-402-11	MOTOR FLEXIBLE BOARD	
< JACK >			
* CNJ303	1-750-160-21	CONNECTOR, FPC 7P	
< CONNECTOR >			
* CNP301	1-580-055-21	PIN, CONNECTOR 2P	
< SWITCH >			
S301	1-572-467-31	SWITCH, PUSH (1 KEY) (LIMIT)	

SENSOR

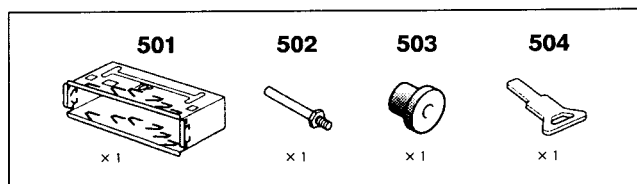
Ref.No.	Part No.	Description	Remark
*	A-3222-525-A	SENSOR BOARD, COMPLETE *****	
	1-646-401-11	SENSOR FLEXIBLE BOARD < DIODE >	
D801	8-719-029-26	DIODE EL-308	
D802	8-719-029-26	DIODE EL-308	
D804	8-719-029-26	DIODE EL-308	
		< RESISTOR >	
R801	1-216-045-00	METAL CHIP 680 5% 1/10W	
R802	1-216-045-00	METAL CHIP 680 5% 1/10W	
R804	1-216-045-00	METAL CHIP 680 5% 1/10W	
		< SWITCH >	
S901	1-692-441-11	SWITCH, MICRO (DISC DET)	

		MISCELLANEOUS *****	
11	1-751-077-11	CORD (WITH CONNECTOR) (ANTENNA)	
12	1-751-036-11	CORD (WITH CONNECTOR AND FUSE) (POWER)	
△ 152	8-848-283-11	OPTICAL PICK-UP BLOCK KSS-313A	
* CNJ801	1-691-558-21	SOCKET, CONNECTOR 12P	
F1	1-532-360-XX	FUSE, GLASS TUBE (1A)	
F2	1-532-678-XX	FUSE, GLASS TUBE (12A)	
M901	A-3252-628-A	MOTOR (SPINDLE) ASSY	
M902	A-3252-585-A	MOTOR (SL) ASSY	
M903	A-3252-580-A	MOTOR (L) ASSY	
S902	X-3366-172-1	SWITCH ASSY	

		ACCESSORIES & PACKING MATERIALS *****	
	1-467-108-11	REMOTE COMMANDER (RM-X35)	
	1-751-036-11	CORD (WITH CONNECTOR AND FUSE) (POWER)	
*	3-387-250-01	CUSHION (UPPER)	
*	3-387-251-01	CUSHION (LOWER)	
*	3-387-669-01	INDIVIDUAL CARTON	
	3-756-451-11	MANUAL, INSTRUCTION (AEP, UK) (ENGLISH, FRENCH, ITALIAN)	
	3-756-451-41	MANUAL, INSTRUCTION (AEP, UK) (SPANISH, DUTCH, SWEDISH, PORTUGUESE)	
	3-756-451-61	MANUAL, INSTRUCTION (Germany) (ENGLISH, FRENCH, GERMAN, ITALIAN)	
	3-756-452-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, FRENCH, GERMAN, ITALIAN)	
	3-756-452-41	MANUAL, INSTRUCTION, INSTALL (AEP, UK) (SPANISH, DUTCH, SWEDISH, PORTUGUESE)	
	X-3365-034-1	CASE ASSY	

Ref.No.	Part No.	Description	Remark
***** HARDWARE LIST *****			
#1	7-621-772-10	SCREW +B 2X4	
#2	7-624-101-01	STOP RING 1.2 (E TYPE)	
#3	7-627-853-57	PRECISION SCREW +P 2X5 TYPE3	
#4	7-685-105-19	SCREW +P 2X8 TYPE2 NON-SLIT	
#5	7-685-647-79	SCREW +P 3X10 TYPE2 SLIT	
#6	7-621-770-67	SCREW +PTT 2.6X6 (S)	
#7	7-621-770-XX	SCREW +PTT 2.6X8 (S)	
#8	7-682-547-04	SCREW +PTT 3X6 (S)	
#11	7-621-771-06	SCREW +B 2X5	
#12	7-621-772-08	SCREW +B 2X3	
#13	7-621-772-60	SCREW +B 2X12	
#14	7-627-552-07	SCREW, PRECISION +P 1.7X2.5	
#15	7-627-552-47	SCREW, PRECISION +P 1.7X4	
#16	7-627-553-27	SCREW, PRECISION +P 2X2.5	
#17	7-627-553-37	SCREW, PRECISION +P 2X3	
#18	7-627-553-67	SCREW, PRECISION +P 2X5	
#19	7-627-553-18	SCREW, PRECISION +P 2X2	
#20	7-621-773-95	SCREW, +PTT 2.6X6 (S)	

		MOUNTING HARDWARE *****	



- * 501 X-3366-235-1 FRAME ASSY, FITTING
- 502 3-386-828-01 SCREW, FITTING
- 503 3-349-410-01 BUSHING
- 504 3-388-078-01 KEY

Note: The components identified by mark  or dotted line with mark  are critical for safety.
Replace only with part number specified.

CDX-5460RDS

SONY® SERVICE MANUAL

AEP Model
UK Model

SUPPLEMENT-1

File this supplement with the service manual.

Subject:
1. Correction
2. Board-change of Mecha-Deck part

1. CORRECTION

Correct your service manual shown below.

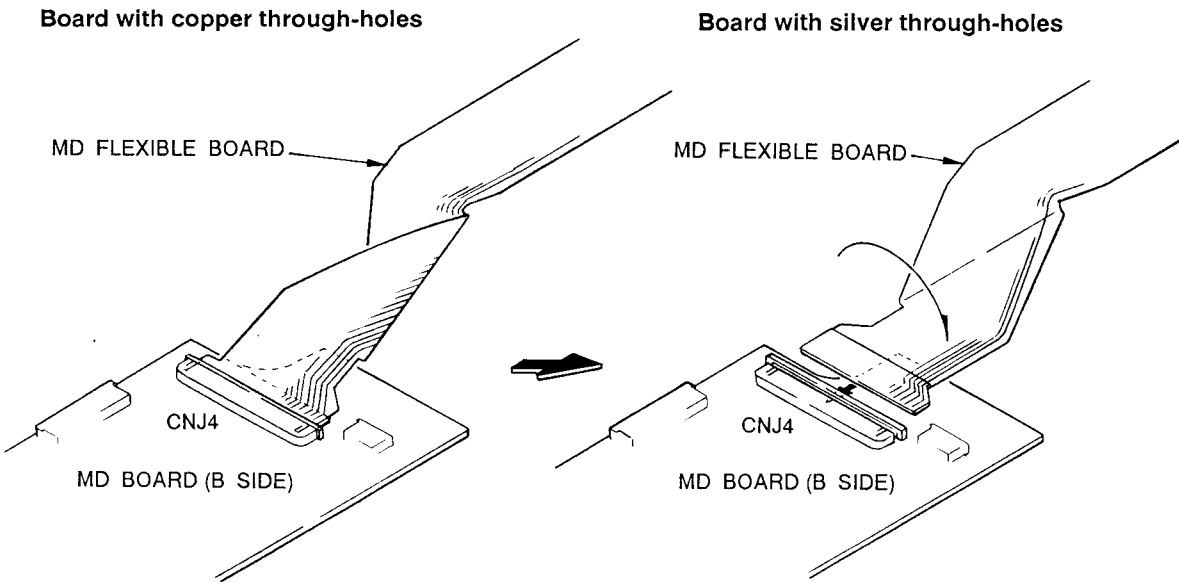
SPECIFICATIONS

Page	Incorrect	Correct
1 (Tuner section FM)	Sensitivity 12 dBf	Sensitivity 8 dBf

2. BOARD-CHANGE OF MECHA-DECK PART

Change has been made in the board of mecha-deck part from copper through hole board into silver through hole board on the way of producing this unit. This SUPPLEMENT-1 contains only the informations which are changed. Please refer to the service manual previously issued for the other informations.

The copper through hole board and the silver through hole board can be used vice versa, however, in attaching the MD Board (1-650-189-11) of the silver through hole board to the Mecha Deck of the copper through hole board, stick the MD Flexible Board (1-646-932-11) into the MD Board CNJ4 without bending the MD Flexible Board.

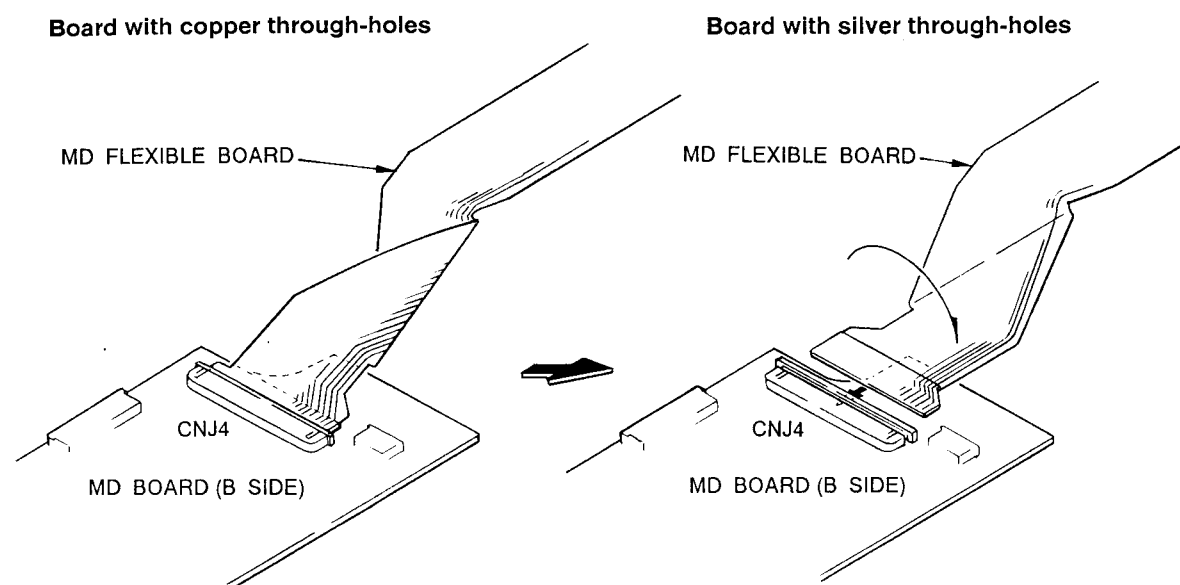


• MD BOARD

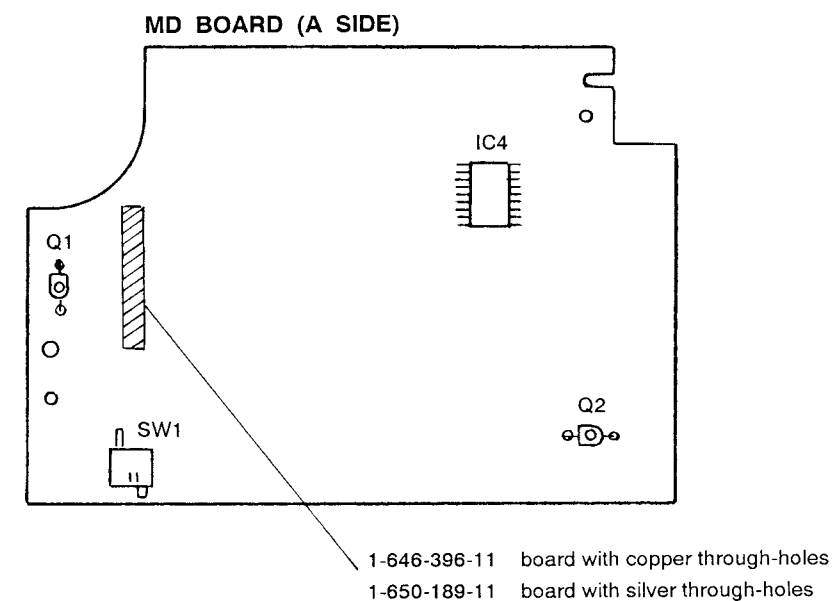
2. BOARD-CHANGE OF MECHA-DECK PART

Change has been made in the board of mecha-deck part from copper through hole board into silver through hole board on the way of producing this unit. This SUPPLEMENT-1 contains only the informations which are changed. Please refer to the service manual previously issued for the other informations.

The copper through hole board and the silver through hole board can be used vice versa, however, in attaching the MD Board (1-650-189-11) of the silver through hole board to the Mecha Deck of the copper through hole board, stick the MD Flexible Board (1-646-932-11) into the MD Board CNJ4 without bending the MD Flexible Board.



• MD BOARD DISCRIMINATION



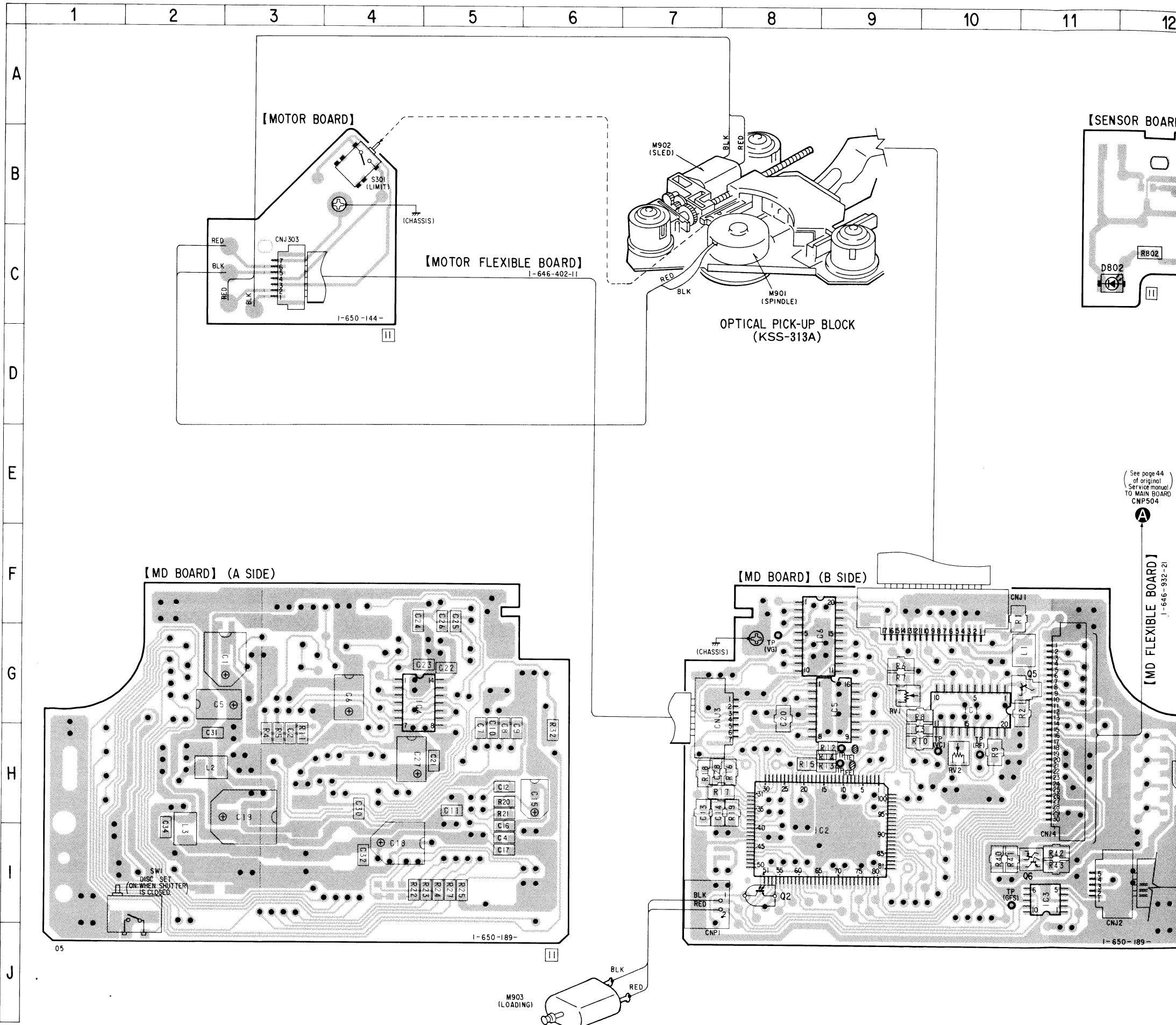
• Semiconductor Location

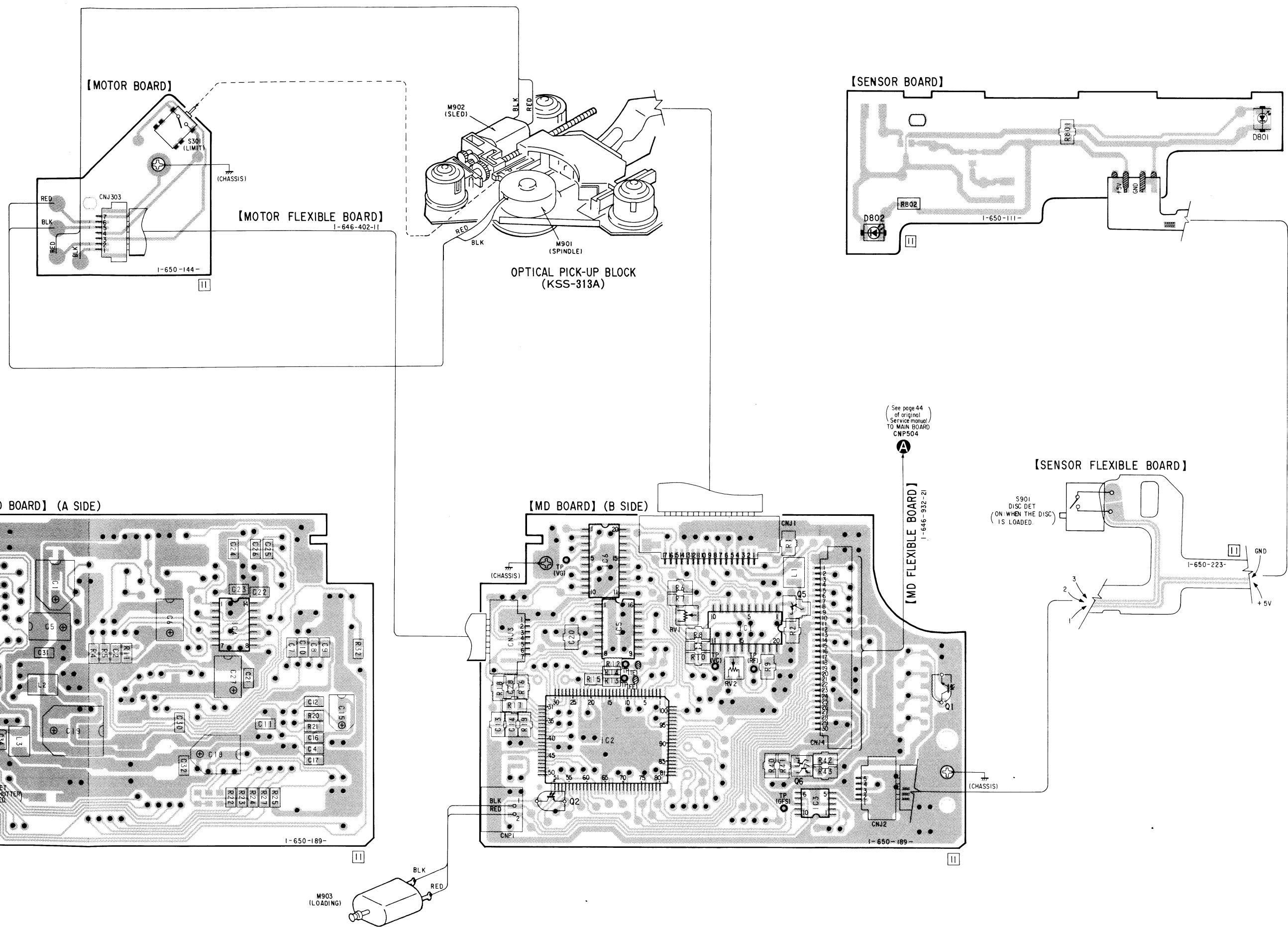
Ref. No.	Location
D801	B-16
D802	C-11
IC1	G-10
IC2	I-9
IC3	I-11
IC4	G-5
IC5	G-9
IC6	G-9
Q1	H-12
Q2	I-8
Q5	G-11
Q6	I-11

Note:

- — : parts extracted from the component side.
- : parts extracted from the conductor side.
- : Through hole.
- ▨ : Pattern from the side which enables seeing.

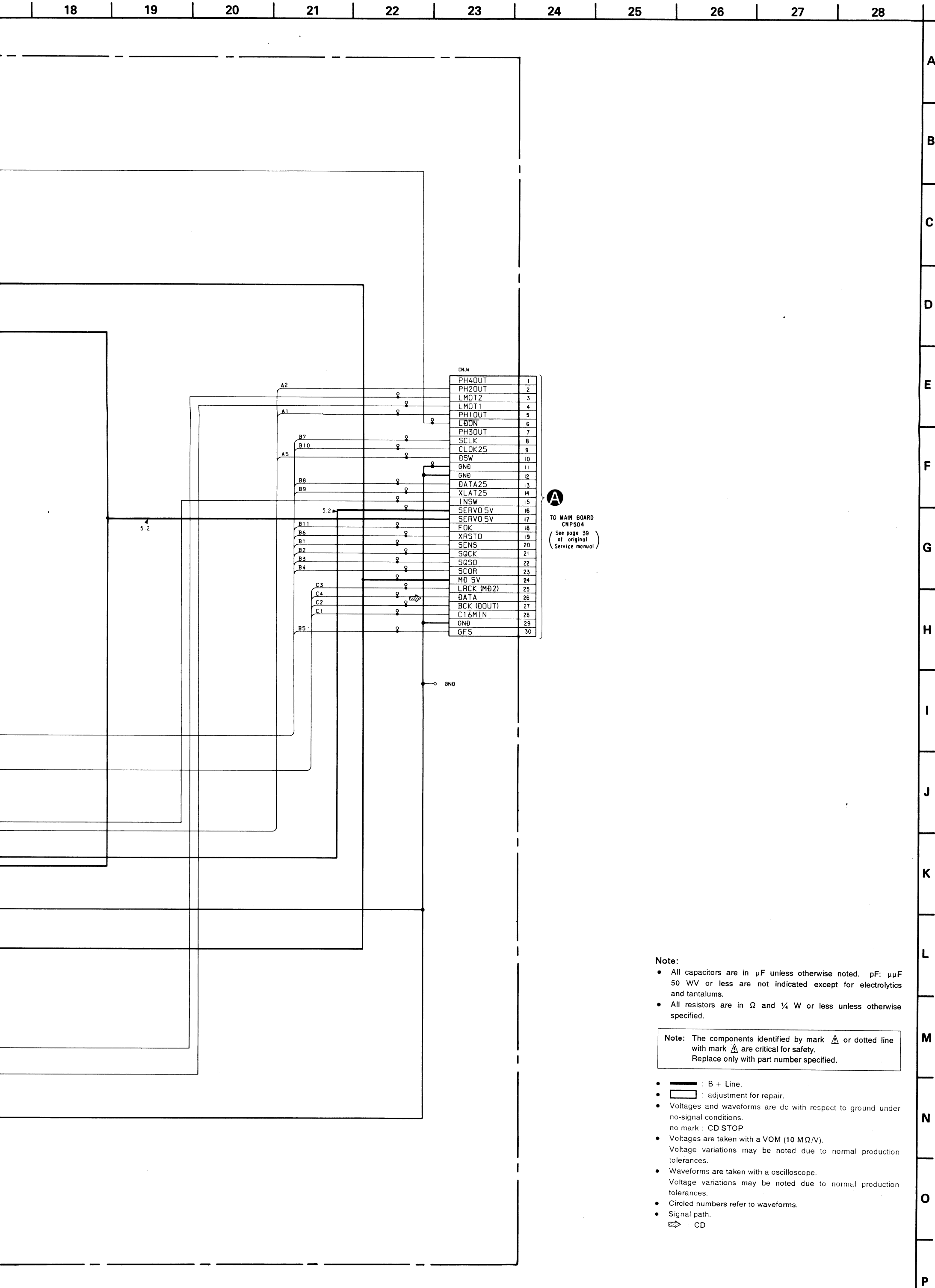
(The other layers' patterns are not indicated.)











Note:

- All capacitors are in μF unless otherwise noted. pF: μpF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}$ W or less unless otherwise specified.

Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

- --- : B + Line.
- --- : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark : CD STOP
- Voltages are taken with a VOM (10 M Ω /V).
Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
 --- : CD

EXPLODED VIEWS

Page	Board with Copper Through-holes			Board with Silver Through-holes	
	Ref. No.	Part No.	Description	Part No.	Description
55	16	1-646-932-11	MD FLEXIBLE BOARD	1-646-932-21	MD FLEXIBLE BOARD
57	126	1-646-401-11	SENSOR FLEXIBLE BOARD	1-650-223-11	SENSOR FLEXIBLE BOARD
58	* 155	1-646-397-11	MOTOR BOARD	1-650-144-11	MOTOR BOARD

ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-3222-526-A	MD BOARD, COMPLETE				< CONNECTOR >	

		< CAPACITOR >					
C1	1-126-206-11	ELECT CHIP	100uF 20% 6.3V	CNJ1	1-565-728-11	CONNECTOR, FPC 17P	
C2	1-163-235-11	CERAMIC CHIP	22PF 5% 50V	* CNJ2	1-750-159-21	CONNECTOR, FPC 5P	
C3	1-164-492-11	CERAMIC CHIP	0.15uF 10% 16V	* CNJ3	1-750-160-21	CONNECTOR, FPC 7P	
C4	1-163-038-00	CERAMIC CHIP	0.1uF 25V	* CNJ4	1-764-441-21	CONNECTOR, FPC 30P	
C5	1-135-166-21	TANTALUM CHIP	47uF 10% 10V	* CNP1	1-580-055-21	PIN, CONNECTOR 2P	
C6	1-135-166-21	TANTALUM CHIP	47uF 10% 10V			< IC >	
C7	1-163-005-11	CERAMIC CHIP	470PF 10% 50V	IC1	8-752-059-30	IC CXA1610M	
C8	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	IC2	8-752-367-16	IC CXD2515Q	
C9	1-163-005-11	CERAMIC CHIP	470PF 10% 50V	IC3	8-759-823-87	IC LB1638M	
C10	1-164-492-11	CERAMIC CHIP	0.15uF 10% 16V	IC4	8-759-925-72	IC SN74HC02ANS	
C11	1-164-492-11	CERAMIC CHIP	0.15uF 10% 16V	IC5	8-759-087-55	IC MPC1732MR2	
C12	1-164-161-11	CERAMIC CHIP	0.0022uF 10% 100V	IC6	8-759-087-53	IC MPC1730MR2	
C13	1-163-011-11	CERAMIC CHIP	0.0015uF 10% 50V			< COIL >	
C14	1-163-251-11	CERAMIC CHIP	100PF 5% 50V	L1	1-412-058-11	INDUCTOR CHIP 10uH	
C15	1-126-191-11	ELECT	0.47uF 20% 50V	L2	1-412-058-11	INDUCTOR CHIP 10uH	
C16	1-164-232-11	CERAMIC CHIP	0.01uF 50V	L3	1-412-058-11	INDUCTOR CHIP 10uH	
C17	1-164-492-11	CERAMIC CHIP	0.15uF 10% 16V			< TRANSISTOR >	
C18	1-126-206-11	ELECT CHIP	100uF 20% 6.3V	Q1	8-729-018-00	TRANSISTOR ST-308	
C19	1-128-391-11	ELECT	330uF 20% 6.3V	Q2	8-729-018-00	TRANSISTOR ST-308	
C20	1-164-492-11	CERAMIC CHIP	0.15uF 10% 16V	Q5	8-729-141-48	TRANSISTOR 2SB624-BV345	
C21	1-164-346-11	CERAMIC CHIP	1uF 16V	Q6	8-729-425-24	TRANSISTOR XN4604	
C22	1-163-038-00	CERAMIC CHIP	0.1uF 25V			< RESISTOR >	
C23	1-164-346-11	CERAMIC CHIP	1uF 16V	R1	1-216-024-00	METAL GLAZE 91 5% 1/10W	
C24	1-164-232-11	CERAMIC CHIP	0.01uF 50V	R2	1-216-001-00	METAL CHIP 10 5% 1/10W	
C25	1-164-232-11	CERAMIC CHIP	0.01uF 50V	R4	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C26	1-164-232-11	CERAMIC CHIP	0.01uF 50V	R5	1-216-073-00	METAL CHIP 10K 5% 1/10W	
C27	1-135-166-21	TANTALUM CHIP	47uF 10% 10V	R6	1-216-073-00	METAL CHIP 10K 5% 1/10W	
C28	1-163-809-11	CERAMIC CHIP	0.047uF 10% 25V	R7	1-216-099-00	METAL CHIP 120K 5% 1/10W	
C30	1-164-492-11	CERAMIC CHIP	0.15uF 10% 16V	R8	1-216-081-00	METAL CHIP 22K 5% 1/10W	
C31	1-164-492-11	CERAMIC CHIP	0.15uF 10% 16V	R9	1-216-075-00	METAL CHIP 12K 5% 1/10W	
C32	1-164-492-11	CERAMIC CHIP	0.15uF 10% 16V	R10	1-216-075-00	METAL CHIP 12K 5% 1/10W	
C34	1-163-809-11	CERAMIC CHIP	0.047uF 10% 25V	R11	1-216-083-00	METAL CHIP 27K 5% 1/10W	

Ref. No.	Part No.	Description	Remark
R12	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R13	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R14	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R15	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R16	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R17	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R18	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R19	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R20	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R21	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R22	1-216-033-00	METAL CHIP 220 5% 1/10W	
R23	1-216-033-00	METAL CHIP 220 5% 1/10W	
R24	1-216-033-00	METAL CHIP 220 5% 1/10W	
R25	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R27	1-216-295-00	METAL CHIP 0 5% 1/10W	
R32	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R40	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R41	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R42	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R43	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
		< VARIABLE RESISTOR >	
RV1	1-238-091-11	RES, ADJ, CERMET 22K	
RV2	1-238-091-11	RES, ADJ, CERMET 22K	
		< SWITCH >	
SW1	1-571-754-31	SWITCH, PUSH (1 KEY) (DISC SET)	

*	1-650-144-11	MOTOR BOARD	

		< CONNECTOR >	
		< SWITCH >	
S301	1-572-467-21	SWITCH, PUSH (1 KEY) (LIMIT)	

*	A-3222-525-A	SENSOR BOARD, COMPLETE	

		(Include SENSOR FLEXIBLE BOARD)	
		< DIODE >	
D801	8-719-045-75	DIODE CL-2001R-X-TU	
D802	8-719-045-75	DIODE CL-2001R-X-TU	

Ref. No.	Part No.	Description	Remark
		< RESISTOR >	
R801	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R802	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	

		1-650-223-11 SENSOR FLEXIBLE BOARD	

		< SWITCH >	
S901	1-692-441-11	SWITCH, MICROPHONE (DISC DET)	
